2018

THE EFFECT OF AN ORFF-BASED CURRICULUM ON SOCIAL EMOTIONAL COMPETENCE OF MIGRANT CHILDREN IN A SUBURBAN KINDERGARTEN IN SHANGHAI

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by

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A Dissertation Submitted to the

Office of Research and Graduate Studies

In Partial Fulfillment of the

Requirements for the Degree of

DOCTOR OF EDUCATION

Gladys L. Benerd School of Education
Curriculum and Instruction

University of the Pacific
Stockton, California

2018

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DEDICATION

This dissertation is dedicated to children who love music.

ACKNOWLEDGMENTS

I would like to acknowledge my dissertation advisors, Dr. Brittin and Dr. Keithcart, for their support and assistance. As co-chairs of my dissertation, their excellent instructions fed my love of research of music education. Without the guidance of my advisors, this study would not have been accomplished. I also appreciate Dr. Hackett who, as the committee member, commented on the research proposal and the manuscript, offering her advice on my dissertation. Her passion and expertise regarding research and teaching inspire my learning. My gratitude also goes to Dr. Marilyn Draheim, whose kindness and friendliness supported me when I studied in the United States. I am very thankful for Dr. Feilin Hsiao, Dr. Eric Waldon and Ms. Barbara Williams in the Conservatory of Music at the University of the Pacific, who generously supported me in the fields of music therapy and music education. I am also very grateful to my institution, Shanghai Normal University Tianhua College, which provided me this opportunity to pursue my doctoral degree. Finally, I would like to thank my husband, parents, and daughter, Carol. Without their support and understanding, I could not have accomplished my study.

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Abstract

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2018

The goal of this research set in a kindergarten in a suburban school in Shanghai, China, was to determine the effect of an Orff-based music curriculum on migrant children's social emotional competencies.

The quasi-experimental design included students in two kindergarten classes, where one class of 28 students was randomly assigned to receive the treatment while the other class of 28 served as the control group. The intervention was a 16-session Orff music curriculum over a period of eight weeks, aimed at improving children's social competence. Data were collected from the two classroom teachers who provided ratings of their students' social emotional competence before and after the intervention by completing the newly translated and validated Chinese version of the teacher form of Social Emotional Assets and Resilience Scales (SEARS-T) (Merrell, 2011).

The results indicated that, after participating in the Orff-based musical program, children in the treatment group were rated significantly higher in responsibility, social competence and self regulation as compared to children in the control group beyond

that accounted for by the pretest scores and gender. No statistically significant improvements in children's empathy was found after participation in this program.

This study provides some of the first empirical data regarding the possible benefits of using an Orff-based musical program to enhance migrant children's social emotional competence in Chinese suburban schools. In addition, the development and validation of the translated Chinese version of the teacher form of Social Emotional Assets and Resilience Scales (SEARS-T-CH) for use in China adds to the study's value, allowing for further study of children's social emotional competencies as observed by teachers of migrant students in China.

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Chapter 1: Introduction

Social emotional competence is a very important predictor of children's mental health, positive behaviors and development in the coming periods of adolescence and adulthood (McCabe & Altamura, 2011). Recently, there has been a growing body of research focusing on childhood social competence as well as its long-term effects on development. For example, children who have sound social emotional competence tend to perform well in academic and interpersonal communication (Rose-Krasnor & Denham, 2009); children who have deficits in social skills are likely to have social and academic maladaptation in the future (Barbarin et al., 2006; Bornstein, Hahn, & Haynes, 2010).

This dissertation explains the need for and reports the effects of an Orff-based musical program designed with the objective of improving the social competence of children in a suburban kindergarten in Shanghai, China. This introductory chapter highlights the significance of social competence in children; the current situation of schools in suburban areas of Shanghai, China; the psychological functioning of music; and Orff Schulwerk, in order to explain the rationale for the design of this dissertation.

Music and music education play important roles for young children in developing a variety of abilities, including skills besides musical abilities. Many studies address non-musical goals utilizing music or music activities as a vehicle (Adderley, Kennedy & Berz, 2003; Bahr & Christensen, 2000; Moreno et al., 2011). An integrated curriculum is considered to be an effective method in the context of early childhood education. In this present study, an integrated curriculum will be

designed for children in a suburban kindergarten in Shanghai using Orff approaches to address the goal of improving children's social emotional competence.

Background

The definition of social emotional competence is usually referred to as one's ability to perceive other's attitudes and to apply his/her own social skills in specific social interactions (Semrud-Clikeman, 2007). Social skills have been conceptualized as behaviors one performs in certain interpersonal activities (Kolb & Hanley-Maxwell, 2003). Emotional competence is commonly viewed to be one of the constituent parts of social competence (Blair, Denham, Kochanoff, &Wipple, 2004; Lin, Lawrence, & Gorrell, 2003). Evidence supports the idea that children with high emotional competence tend to be good at understanding others' emotions as well as monitoring their own emotions and they are able to have positive relations with their peers, parents and teachers (Denham et al., 2003).

In this study, social emotional competence is defined as an integrated ability of emotional competence and social skills. This integrated ability is comprised of four constructs: responsibility, social competence, self regulation, and empathy (Merrell, 2002). First, responsibility refers to the ability to keep promises, solve problems and have good interpersonal relationships. Second, social competence is considered to include appropriate behaviors performed in different social situations and contexts Third, self regulation is the ability to adjust one's emotion to adapt oneself to resolve problems in social interaction. Last, empathy refers to the ability of understanding the other's intentions and emotional expressions in social interactions and, based on this understanding, display appropriate adaptive behaviors.

Significance of Social Emotional Competence in Children

Social emotional competence is a key factor in the psychological development of young children. It has direct and indirect impacts on children's further development, such as capabilities related to problem solving, healthy interpersonal relationships, prosocial behavior, academic achievement and career success (Coolahan, Fantuzzo, Mendez, & McDermott, 2000; Langeveld, Gundersen, & Svartdal, 2012; Lin, Lawrence, & Gorrell, 2003; McClelland, Morrison, & Holmes, 2003).

Childhood and adolescence are two vital periods for the development of social competence. This process of development can be influenced by a variety of elements related to both nurture and nature (McDevitt & Ormrod, 2007). As a result, educators should pay great attention to improving social competence in preschoolers and kindergarteners because this age is considered critical (Barbarin et al., 2006; Odom, McConnell, & Brown, 2008; Rose-Krasnor & Denham, 2009). Preschool and kindergarten, which are social contexts away from family members, are environments that play an important role in children's psychological and physical development. Apart from the care of their family members, children in this context need to learn how to follow the rules and get along with others. In this environment, they are able to engage in peer interactions and student-teacher relationships. This includes making friends, cooperating with their peers and communicating with their teachers (Schneider, Attili, Nadel, & Weissberg, 1989).

Social relationships of young children play essential roles in their future development. Evidence supports the proposition that good peer and adult-child relationships have a positive impact on children's learning interests and academic achievement (Denham et al., 2003; Garner, 2006). Children who have negative relations with their peers, parents or teachers tend to have problems in learning

activities and behaviors in schools (Hamre & Pianta, 2001; Pianta & Stuhlman, 2004). One reason that students may not develop well in school readiness is that their peers or teachers in this environment may not welcome them. Young children who are diagnosed as having deficits in social emotional competence tend to experience similar problems in elementary school and display a variety of problems in social and academic development in the future (Bornstein et al., 2010). Therefore, it is critical to monitor children's social emotional competence through appropriate assessments. Early intervention aimed at fostering social skills and emotional competence has been found to minimize maladjustments in the future (Bornstein et al., 2010).

Challenges for Schools in Suburban Areas in Shanghai

The "*Household Registration System*" or "*Huji*" in China, which is based on residents' geographical position, leads to a binary system (city versus rural) of population management (Knight, Song & Huaibin, 1999). This binary system also causes an orientation called "city centered" or "urban centered," and cities usually have set priorities for various resources for rural and suburban areas (Wu, 2012; Zhang, 2012).

In recent years, China's economy has maintained rapid development, and urbanization has been accelerating. A large number of migrant workers have moved from rural areas to cities. Most migrant workers choose to live in the suburbs of the city, due to the urbanization and development of these areas, which provide more opportunities of jobs (Wu, 2012). Children who live in these areas with their parents (migrant workers) become migrant children. Although China is in a period of a new era in which the urban-rural relations shift from binary system to unified system, this "city center" orientation is still embodied in the public education policy (Li, 2014; Wu, 2012; Zhang, 2012). The residence registration-based school admission system

unavoidably leads to the following consequences: that students in a better residential area or district are entitled to better education resources and better quality education, while others living in less developed areas or districts with inferior schools are forced to make do with the lower quality of resources and services of education (Shen, 2008).

In China, migrant children are youth who are under 18 years old live in a town or suburban areas without local household registration (Duan, Lv, Wang, & Guo, 2013). Under this binary system, schools in suburban areas are facing two challenges: one is the shortage of qualified teachers; the other one is the high proportion of migrant children (Shen, 2008; Wang, 2013). In Shanghai, the educationally advanced areas are mostly located in urban districts; in contrast, suburban areas and districts show an obvious lack of quality educational resources and services (Shen, 2008). Teachers with higher educational levels and sufficient work experience prefer to work in schools in the urban districts because of the better wages and convenience of public transportation (Shen, 2008).

Furthermore, in Shanghai, four out of every 10 children are migrant children, and the proportion is even higher in suburban schools (All-China Women's Federation [ACWF], 2013). It is reported that, although the number of migrant children is increasing, their families encounter many economic, social welfare and social-cultural obstacles that make it difficult for them to adapt to city life (Fang, Sun, & Yuen, 2014; Yao, & Hao, 2013). There is growing evidence indicating that migrant children in China, in general, suffer from different kinds of psychological problems. They may have the risks of experiencing depression, separation anxiety, feelings of inferiority, and loneliness, and perform poorly in self regulation, adaptive behaviors, learning habits, and academic achievement (Chen, & Feng, 2013; Hu, Lu, & Huang, 2014; Hu, 2011).

In this current study, the target population is migrant children in kindergarten in suburban Shanghai. Because of the shortage of qualified teachers and services, migrant children in suburban kindergarten may have potential risks and challenges regarding their psychological wellness and development.

Psychological Functioning of Music

Generally, music makes contributions to the holistic development of human beings. Evidence from many researches indicates there are underlying influences of music and music education on non-musical capacities (Corrigall and Trainor, 2011; Lima & Castro, 2011; Moreno et al., 2011; Orsmond & Miller, 1999). Learning music has the potential to positively influence a person's development. These influences are not only related to musical accomplishment, but also associated with psychological wellness. In ancient Greece, music education was so important that it was considered as a basic discipline in education (Biasutti, & Concina, 2013). Several great philosophers considered music to impact human emotion and cognition. Aristotle proposed that music could imitate emotion and character of humans, such as gentleness, happiness, anger, sadness and braveness (D'Angour, 2013). Both Aristotle and Plato considered that exquisite music could make people graceful (Stamou, 2002). When people listen to and imitate music with various emotional expressions, they may be filled with emotions of the same nature; if and when exposed for a long time to music of base emotions, the receivers' disposition might be influenced that way (Stamou, 2002).

Although the views above are from about 1800 years ago, evidence from recent research supports their statements of the psychological function of music (Corrigall & Trainor, 2011; Moreno et al., 2011). Evidence indicates that music learning may be positively correlated with development in other kinds of intelligences (Biasutti &

Concina, 2013). People with musical learning experiences are found to be more accurate in distinguishing the different pronunciations in spoken language (Magne, Schön, & Besson, 2006). Positive relationships are found between participation in music training programs and reading, writing and math competencies (Cheek & Smith, 1999; Corrigall & Trainor, 2011). Hallam (2010) proposed that music is related to six domains including language, logical-math skills, cognition, socialization, creativity, and physical wellness.

Derived from the literature, music and music education have impacts on human emotion and intelligence (Biasutti & Concina, 2013). Based on the theory of Integrated Curriculum (Drake & Burns, 2004), research from the past two decades shows that music education has effects on other academic domains for the learners. Music learning is found to be associated with spatial ability. Hetland (2000) suggests that children in early childhood and adolescence could improve their spatial development through music training programs. Music education promotes students' academic achievement by improving their Intelligence Quotient (IQ) (Biasutti & Concina, 2013).

A growing body of evidence indicates that music education or music intervention can be considered as effective methods to enhance the social competence of children and adolescents (Biasutti, 2013; Gerry, Unrau, & Trainor, 2012). Music can express one's emotions through the arrangement of notes and rhythm. As one function of music is to influence people's emotions, it is not a surprise to find music education can have an impact on social development. Thoma, Scholz, Ehlert, and Nater (2012), find that qualitative aspects of music listening are significantly related to the psychological functioning, mediated by emotion regulation and dispositional stress reactivity.

Even for very young children, music can have an effect on their social and emotional improvement. The influences of an active musical training program on enhancing infants' musical, communicative and social development were examined by Gerry, Unrau and Trainor (2012). Their findings indicate that musical intervention can improve infants' musical capabilities as well as positively impact their social competency. In music intervention, multiple processes can be instilled, including cooperation, verbal and non-verbal communication, positive peer interactions, peer collaboration, recognizing and supporting the rights of others, dependability, responsibility, attention control, delayed gratification, and acceptance of consequences (Hargreaves, Marshall, & North, 2003; McClung, 2000).

In summary, musical experiences are effective in establishing and maintaining interpersonal relationships. Therefore, the design of this current study is aimed to connect the two areas, music and social development, supported by the theoretical perspectives underlying implementation of an integrated curriculum.

Orff Schulwerk

Orff Schulwerk (Schoolwork) is a music education approach for children, adolescents and adults founded by Carl Orff (1895-1982), a German musician and music educator (Shamrock, 1988). In the worldview of the development of music education, Orff Schulwerk is one of the most influential music teaching methods (Heunis, 2013). The Orff Schulwerk is one of the three most influential and widely used systems, with the Dalcroze and Kodaly approaches being the other two (Heunis, 2013; Turpin, 1986). One concept developed by Orff is called "Elementar Musik" (elementary music) (Siemens, 1969). The nature of music is a combination of a variety of activities, rather than only referring to the sound. It is an integrated social activity with movement, language and dance where the participants are involved in

music, not as an audience but as a performer (Shamrock, 1997; Li, Xiu, & Yin, 2011).

According to Orff Schulwerk, music learning begins with listening and imitating, followed by improvisation (Goodkin, 2001). Orff considers that music comes from nature and relates to the rhythm in language and movement (Shamrock, 1997). Instead of studying music technique or music theory, Orff Schulwerk holds that experiencing the essence of music is very important for children in childhood (Li et al., 2011). Children can feel music through creative, improvisational activities. Learning music is a process associated with children's imagination, emotion and experience of aesthetic appreciation (Li et al., 2011). Furthermore, Orff Schulwerk contends that early childhood and elementary school are important periods in the whole development of one's life (Li et al., 2011). They are sensitive periods of learning language, writing, reading, and socialization. Therefore, music needs to be an essential component in the school curriculum system.

Orff Schulwerk has a system of teaching strategies that include singing, movement, speech, instrumental playing, and a series of textbooks for teaching music within elementary schools (Li et al., 2011). However, it does not require the direct use of textbooks in different countries. In fact, the utilization of the Orff approach is encouraged for music educators, teachers, professors and composers to develop their own materials from folk songs, instruments and other local resources under the big "umbrella" of the idea "Elementar Musik" and teaching strategies (Lu, 2006; Shamrock, 1997). Findings from research, examining the effects of Orff-based musical curriculum and Orff-based musical therapy intervention indicate improvement in children's psychological well-being (Colwell, Edwards, Hernandez, & Brees, 2013; Hilliard, 2007). In addition, it is found that employing the ideas from

Orff Schulwerk has positive effects on children's social communication, self-efficacy, social skills and emotional regulation in South Korea (Yun & Kim, 2013).

Overall, Orff Schulwerk is not only an effective way of teaching music for children and adolescents, but also a approach to address non-musical goals in educational and clinical interventions. This study adds to the research base by conducting an intervention for migrant children in a suburban school in Shanghai to improve their social emotional competencies. In this current study, the aim is to enhance the student participants' emotional competency and social skills through receiving the Orff-based curriculum. This study informs Chinese music educators and kindergarten teachers regarding teaching strategies for improving children's social emotional competence in a new way of a music-based curriculum.

Conceptual Framework: Integrated Curriculum

According to the educational theory of John Dewey, students respond positively to an integrated curriculum (Drake & Burns, 2004). Based on the philosophy of constructivism, the students learn from the real social world by interacting with other people (Drake & Burns, 2004). Therefore, the reason for the integrated curriculum is that the world cannot be separated into different subjects.

There is a spectrum of different perspectives of what educational researchers may consider to constitute an integrated curriculum. Integrated curriculum is a fusion of different subjects. The integrated curriculum places a variety of the elements from each subject into meaningful relationships to enable greater understanding of broader topics. Teaching and learning becomes a holistic method for understanding the real world. Shoemaker (1989) considers that teachers should use an integrated method to teach children to know the true world which is very interactive. Shoemaker (1989) states a definition of integrated curriculum: "Education that is organized in such a

way that it cuts across subject-matter lines, bringing together various aspects of the curriculum into meaningful association to focus upon broad areas of study" (1989, p. 5).

Consistent with the thoughts of Dewey, Beane (1997) theorizes the integrated curriculum to be based on the cooperative constructions of students and teachers. The boundaries of different subjects are vague, as the utilization of knowledge within every subject is based on the context of the surrounding issues. Definitions of an integrated curriculum have in common a notion of a connection of different disciplines. Deriving from the definitions, some characteristics can be inferred as follows: the integrated curriculum 1) uses resources beyond books; 2) sets up relations between concepts; and 3) uses themes or topics as methods of organization (Anderson, 2013).

Although the definition promoted by Shoemaker encompasses a variety of views and models, there is little agreement on the specifics of how an integrated curriculum is designed and implemented (Anderson, 2013). Therefore, there are various theories and models of integrated curriculum (Beane, 1997; Fogarty, 1991). Drake and Burns (2004) explain three categories (multidisciplinary, interdisciplinary and transdisciplinary) within the concept of integrated curriculum. Fogarty (1991) develops a continuum for gauging the extent to which an integrated curriculum is achieved. Miller (2005) suggests different models of integrated curriculum for students in higher education.

As for curriculum for children in early childhood, the use of an integrated curriculum is considered to be a valuable vehicle for instruction. It is an effective tool for acquiring knowledge and skills involving different intelligences (Saracho, 2011). When the environment and pedagogical methods take children's interests and

developmental levels into consideration, an integrated curriculum is more likely to optimize the learning circumstance (Drake, 2012; Saracho, 2011). Models of problem-based, theme-based and interdisciplinary approaches in integrated curriculum are used in the context of childhood education (Loepp, 1999). More details regarding integrated curriculum will be provided in Chapter Two.

Problem Statement

Social emotional competence plays an essential role in children's future development, and there is a growing body of research studies focusing on the influential nature of the socialization of children (Barbarin et al., 2006; Bornstein, Hahn, & Haynes, 2010; Rose-Krasnor & Denham, 2009). Maladjustment in social development can be recognized in the period of childhood. If interventions or therapies are not carried out in appropriate stages of development, these kinds of problems or deficits have the potential to extend to adolescence and adulthood and be a predictable factor of antisocial behaviors, poor school readiness and even crime (Caspi & Moffitt, 1995; Raver, 2004). While researchers in psychology have focused more on deficits, more recent studies focus on positive psychology. The assessment of positive social emotional assets or resilience is often neglected (Merrell, Cohn, & Tom, 2011). Therefore, there is a need to carry out studies addressing the efficacy of curricula designed to develop social emotional assets during early childhood (Merrell et al., 2011).

In addition, because of the shortage of qualified teacher resources and the higher proportion of migrant children in China's large municipalities of millions of people, migrant children in suburban kindergartens may have potential risks and challenges regarding their psychological wellness and development. Therefore, there is a need to pay attention to young migrant children's social development and mental wellness

(Chen, Wang, & Wang, 2009; Hu, Lu, & Huang, 2014; Wong, Chang, & He, 2009). Several inquiries address the topic of enhancing social emotional competencies with music training or music therapy interventions (Dezfoolian, Zarei, Ashayeri, & Looyeh, 2013; Nicholson, Berthelsen, Abad, Williams, & Bradley; 2008; Kim, Wigram, & Gold, 2009). However, few studies employ the strategies of Orff Schulwerk as a framework aimed at improving children's social emotional development in the contexts of schools.

This present inquiry is designed to engage kindergarten students, from migrant families, in an integrated curriculum using an Orff approach to study its influence on improving children's social emotional competencies in a suburban school in Shanghai, China. This dissertation focuses on the educational effects of an Orff-based curriculum, rather than the clinical effects. Migrant children in this study may face difficulties and challenges reported in the previous studies; however, these migrant children were not diagnosed to have psychological deficits or illnesses. Therefore, the goal of the intervention was to improve their social emotional competence which is a part of positive development of the migrant children, and the intervention was conducted at the students' school site.

Purpose and Hypothesis

The purpose of this inquiry is to understand the effects of using Orff-based musical curriculum on the social emotional competence of migrant kindergartners in suburban areas in Shanghai, China. The aim is to study students' social emotional competency, social skills and executive functioning in relation to learning prosocial behaviors. Increasing prosocial behaviors and decreasing antisocial behaviors are based on the abilities of appropriate emotional expression, empathy, emotion regulation, responsibility, appropriate social skills, and cooperation (Merrell, 2002;

Merrell, Cohn, & Tom, 2011). This study assesses the influence of the Orff-based musical curriculum on children's social development.

This study is intended to develop a structured and effective Orff-based musical curriculum designed to positively change children's behaviors in social activities. It is hypothesized that students who are the participants in this curriculum will be reported by their teachers to have positive interactions in social activities and that students will perform at higher levels of social competency than students in a control group who do not participate in the program.

Research Questions

This present study uses quantitative methodology to investigate the effects of the Orff musical program on social emotional competence of children in a Shanghai suburban kindergarten school. Based on the literature review and the instrument employed, the research questions are as follow:

1. Does participation in the Orff-based musical curriculum improve migrant kindergarteners' responsibility after controlling for gender and initial levels of responsibility?

2. Does participation in the Orff-based musical curriculum improve migrant kindergarteners' social competence after controlling for gender and initial levels of social competence?

3. Does participation in the Orff-based musical curriculum improve migrant kindergarteners' self regulation after controlling for gender and initial levels of self regulation?

4. Does participation in the Orff-based musical curriculum improve migrant kindergarteners' empathy after controlling for gender and initial levels of empathy?

Delimitations of the Study

This study was conducted in one school in Jiading District (a suburban district) in Shanghai. An Orff-based musical curriculum was carried out for kindergarten children from five to six years old to study their social competence including responsibility, social competence, self regulation and empathy. All students in the two classes were migrant children and they were recruited for the Orff music curriculum for which the effects on social emotional competency of kindergarteners in suburban areas were examined. The data collection and intervention took place during January and February 2018.

Definitions of Terms

Empathy. Empathy is the capability of understanding and having sympathetic emotional experiences with others when they are expressing distress, grief or other emotions (Hoffman, 1991).

Integrated curriculum. Integrated curriculum is a curriculum system that intends to integrate knowledge, skills, and attitudes from within or across disciplines to focus upon broad areas of study (Shoemaker, 1989).

Kindergarten school in China. Kindergarten school in China is the full-day educational program for children, from three to six years old. It covers both the preschool and kindergarten education found in the United States. Some Chinese researchers may also use the term “preschool” instead of “kindergarten” in their studies.

Migrant children in China. In China, migrant children are youth who are under 18 years old live with their parent(s) or their guardian(s) in a town or subarea without local household registration (Duan, Lv, Wang, & Guo, 2013).

Orff Instruments. Carl Orff (1895–1982) built the first Orff instruments with his friend, instrument maker Karl Maendler (1872–1958). Most of the Orff instruments are percussion instruments: non-pitched percussion and pitched percussion. For example, drums, triangles, and shakers all belong to the non-pitched type; the glockenspiel, metallophone, and xylophone, and barred instruments, belong to the categories of pitched percussion (Li, Xiu, & Yin, 2011).

Orff Schulwerk. Orff Schulwerk is a music education approach for children, adolescents and adults founded by Carl Orff (1895-1982), a German musician and music educator. This approach encompasses various strategies in organizing music activities, such as speech, singing, movement and playing instruments (Li, Xiu, & Yin, 2011).

Responsibility. Responsibility can be categorized into personal responsibility and social responsibility. Personal responsibility refers to the ability to set goals and find ways to meet them; understand and agree with others' ideas and keep promises; accept personal achievement. Social responsibility refers to respecting others' rights, property, and honor; having good interpersonal relationship; knowing how to work in teams; and solving problems and conflicts effectively (Lavay, French, & Henderson, 2006).

Self regulation. Self regulation involves controlling one's emotions and behaviors in adaptive ways to different situations (McDevitt, & Ormrod, 2007).

Social emotional competence. Social emotional competence is an integrated ability involving both emotional competence and social skills. It is the ability to take another's perspective concerning a situation and to learn from past experience and being able to use the skills to have more positive interpersonal relationships in a variety of situations (Semrud-Clikeman, 2007). In this study, social emotional

competence is defined with four constructs: responsibility, self regulation, social skills and empathy.

Chapter Summary

In summary, social emotional competence in children plays an essential role in the processes and outcomes of their development. It is a predictor for healthy relationships with peers and adults, which lead to success in adolescence and adulthood. Children in suburban kindergartens in Shanghai are considered to have special circumstances potentially influencing their development. Music has psychological functions in influencing human emotion and behaviors. Evidence from research supports the position that music and music education can be employed in interventions to improve mental wellness and intelligences (Corrigall & Trainor, 2011; Moreno et al., 2011). As a result, the researcher hypothesized that a structured Orff-based musical curriculum for Chinese kindergarteners residing in suburban areas of Shanghai would be effective for developing their social emotional competence.

Chapter 2: Literature Review

In the pages that follow, a review of the literature is provided that describes the relationship between music education and the development of social emotional competence in early childhood educational practice. The literature review is presented and discussed in the following way. First, the conceptual framework of integrated curriculum is discussed. Second, the concept of social emotional competence is explained and is organized into sections addressing key elements of social emotional competence: emotional expressiveness, empathy, self regulation, social skills, responsibility and so on. Third, literature is presented that addresses the situation of education in suburban areas in Shanghai, China. Fourth, the literature is discussed regarding the relationship between music and social competency function, the Orff-based musical curriculum and how music can be used to assist in the development of social competence. Finally, the review of the literature summarizes points of relationship between music education and social development.

The Conceptual Framework: Integrated Curriculum

The definition of an integrated curriculum is a curriculum system that integrates knowledge, skills, and attitudes from within or across disciplines in order to understand the important topics or ideas. Teachers and students together can generate an integrated curriculum by connecting the components of different subjects meaningfully. Shoemaker (1989) states a definition of integrated curriculum: "Education that is organized in such a way that it cuts across subject-matter lines,

bringing together various aspects of the curriculum into meaningful association to focus upon broad areas of study" (1989, p. 5). The development of integrated curriculum is associated with the progressive movement in America (Drake & Burns, 2004). The foundation of integrated curriculum is based on the theory of John Dewey (1916), who advocates that curriculum is constructed through the cooperation between students and their teachers. Dewey contends that the real world is not divided into subjects and that all research comes from the relations of a common world (Dewey, 1916). Influenced by Dewey's theory, progressives consider that schools are the epitome of the real world where children collaborate with the teachers to deal with different tasks and problems to pursue a community of interests. The learning goals of children include developing inquiry skills, cooperation and self regulation in order to solve problems democratically in society. Children construct their cognition system and apply their knowledge into new situations. Child-centered teaching strategies are emphasized in the implementation of integrated curricula, where the role of the teacher is transformed from instructor to assistant helping students to solve problems and complete projects (Drake & Burns, 2004). Textbooks and knowledge are considered as tools rather than resources in the processes of learning (Ornstein & Hunkins, 2004).

Beane (1997) expands upon Dewey's theory and contends that the content and organization of integrated curriculum are based on meaningful themes. Beane places the integrated curriculum as the basis of cooperative constructions of students and teachers. The boundaries of different subjects are considered to be vague, as the utilizations of knowledge within every subject are based on the contexts of the issues. Beane (1997) suggests that the implementation of integrated curriculum changes the thought and practice of teachers in schools.

Models of integrated curriculum. Integrated curriculum encompasses a variety of views and models, with little agreement on specific design and implementation. Therefore, there are multiple theories and models of integrated curriculum (Beane, 1997; Fogarty, 1991).

There is a continuum of integrated curriculum, as advocated by Fogarty (1991). This educational continuum is displayed in Table 1, with descriptions of each model, from a fragmented model to highly integrated models. At the final stage of this continuum, the students are independent learners who are engaged in integrating various disciplines. In the last model, teachers appreciate different kinds of expertise while motivating their students to be immersed in classes of variety (Fogarty, 1991).

Table 1. Continuum of Education (Fogarty, 1991)

Model	Description	Advantage	Disadvantage
Fragmented	Separate and distinct disciplines	Clear and discreet view of a discipline	Connections are not made clear for students, less transfer of learning
Connected	Topics within a discipline	Key concepts are connected, leading to the review, re-conceptualization and assimilation of ideas within a discipline	Disciplines are not related, content focus remains within the discipline
Nested	Social, thinking and content skill are targeted within a subject area	Gives attention to several areas at once, leading to enriched and enhanced learning	Students may be confused and lose sight of the main concepts of the activity or lesson
Sequenced	Similar ideas are taught in concert, although subjects are separate	Facilitates transfer of learning across content areas	Requires ongoing collaboration and flexibility, as teachers have less autonomy in sequencing curriculum
Share	Team planning and /or teaching that involves two disciplines, focuses on shared concepts, skills or attitudes	Shared instructional experience; with two teachers on a team it is less difficult to collaborate	Requires time flexibility, commitment, and compromise
Webbed	Thematic teaching, using a theme as a base for instruction in many disciplines	Motivating for students; helps students see connections between ideas	Theme must be carefully and thoughtfully selected to be meaningful, with relevant and rigorous content
Threaded	Thinking skills, social skills, multiple intelligences, and study skills are "threaded" throughout the disciplines	Students learn how they are learning, facilitating future transfer of learning	Disciplines remain separate
Integrated	Priorities that overlap multiple disciplines are examined for common skills, concepts and attitudes	Encourages students to see interconnectedness and interrelationships among disciplines, students are motivated as they see these connections	Requires interdepartmental teams with common planning teaching time
Immersed	Learned integrates by viewing all learning through the perspective of one area of interest	Integration takes place within the learner	May narrow the focus of the learner

Drake and Burns (2004) explain three categories under the concept of integrated curriculum: multidisciplinary, interdisciplinary, and transdisciplinary. According to the multidisciplinary model, relations, usually the themes, are set up intentionally across different subjects while every subject remains independent (Drake & Burns, 2004). Examples of multidisciplinary models are sequenced, threaded or correlated methods, where subjects are taught separately but arranged chronologically, in order to focus on parallel themes (Fogarty, 1991; Vars, 2001). For example, classrooms for preschoolers are usually divided into a set of centers based on different functions, such as reading, math, science, art and play centers. The theme of "community" can be learned through joining in different activities in these centers (Saracho, 2011). Children can learn about "community" in separate centers via role-plays, games, or art activities. In the assessment of multidisciplinary study, teachers typically assess students within one subject. Similar topics are taught in concert with the efforts of teachers from different disciplines (Drake & Burns, 2004).

The second model, the interdisciplinary model, is emphasized for its distinct relation of different disciplines (Drake & Burns, 2004). On the one hand, similar to the multidisciplinary model, there is also a shared topic, question or task in interdisciplinary curriculum. But on the other hand, the interdisciplinary curriculum focuses on the common part across the disciplines, not within them (Drake & Burns, 2004).

With the combined content of two or more disciplines, teachers create a new curriculum, which is restructured among overarching ideas and concepts. Integrated learning occurs in two subjects in which shared notions appear as organizing elements. For instance, a musical program with a goal of improving children's language acquisition indicates that music activities have the function of enhancing children's

vocabularies (Winters & Griffin, 2014). Another study examines the effect of a curriculum integrated with literacy and math on preschoolers' literacy, math and social competence, and executive function (Weiland & Yoshikawa, 2013). An, Capraro and Tillman (2013) state that integrating musical experiences with math learning can improve children's logical-mathematical capabilities.

The third model, transdisciplinary curriculum, is based on the context of the real world. This model requires the greatest degree of fusion, where the restrictions of disciplines are blurred. A new frame will be created with the magnified combination of different subjects. The key point is not commonality of the subjects, but rather the internalized cognitive system and the interests of children (Drake, 2012). Transdisciplinary curriculum is based on the motivation and interests of the children themselves (Pedersen, 2012). Teachers may give instructions to students according to the students' interests, or teachers and students might develop the process of study together. Under this model, children learn knowledge and skills from real life and society, where they can utilize knowledge or skills across different subjects (Drake & Burns, 2004; Roman, 2014).

Numerous studies find that in integrated classes, students are more involved in learning, with better self-motivation and fewer behavior problems than those in traditional classes (Bolak, Bialach & Dunphy, 2005; Flowers, Mertens, & Mulhall, 2005; Vars, 2001; Yu-Liang, Huan-Hung, 2015). In early childhood education, educational play is considered to be an essential component of the integrated curriculums (Spodek, Saracho, & Davis, 1991). Preschoolers and kindergarteners become content literate in many subjects, such as arts, social learning, math, language, science and literacy through play. Therefore, it is suggested that all disciplines should

be integrated into a play-based course to strive for educational goals in early childhood education (Saracho, 2011).

Integrated curriculum in kindergarten in China. In China, studies of the integrated curriculum for early childhood education can be traced back to the beginning of the 20th century (You, 2002; Yu, 2005). This approach was mainly influenced by Western educational philosophies, such as constructivism. However, researchers engaged in the localization of Western doctrines to the situations in China (Zhou, 2005). He-qin Chen (1892-1982), a preeminent preschool educator, considers that teaching the material of nature and society should be the primary focus of curriculum in early education (Zhang & Dai, 2006). He developed a system of curriculum, called the "whole approach" (Yu, 2005; Zhang & Dai, 2006). Chen's approach is designed to teach children systematically, as in real life (Chen, 2013). Therefore, this interrelated curriculum connects five activities: health, social skills, science, art and literacy. There are a number of activities based on themes across these five fields, forming a complete education system (Yu, 2005; Liu, 2008; Zhang & Dai, 2006). The curriculum system in early childhood education in modern China is based on He-qin Chen's idea of an integrated system (Yan, 2016).

Social Emotional Competence

To give the definition of social emotional competence is a very complex task, since it encompasses a variety of constructs based on different dimensions: psychology, cognition, and biology (Semrud-Clikeman, 2007). Generally, the term of "social competence" is included in research as "social emotional" competence and these two words are usually associated (Ashiabi, 2007; McCabe, & Altamura, 2011). Semrud-Clikeman (2007) argues that, "social competence is an ability to take another's perspective concerning a situation and to learn from past experience and

apply that learning to the ever-changing social landscape" (p.1). Social emotional competence involves the ability to understand one's own perception as well as another's and it is the base for children's future social activities (Ashiabi, 2007).

In addition to emotional competence, social emotional competence includes other dimensions, such as social skills and social behaviors in communication (Denham, 2006). Executive functions consist of abilities that allow an individual to evaluate one's behavior, assess its appropriateness and make changes adaptive to the requirement (Damasio, 2001). Dodge (1986) considers that social emotional competence involves reciprocity between biologically determined capabilities and the circumstances. Furthermore, Spitzberg (2003) argues that the dimensions regarding social competence should be considered, such as culture, time, relationship, situation and function. Social behaviors may be appropriate for one setting but not for another. Models of social competence developed by different researchers include the social information-processing model (Crick & Dodge, 1994), three-tiered model (Cavell, Meehan, & Fiala, 2003), theory of mind model (Baron-Cohen, Tager-Flusberg, & Cohen, 2000) and other models with different dimensions (Semrud-Clikeman, 2007).

When children resolve problems in social activities, they may effectively utilize skills derived from past social experience (Crick & Dodge, 1994). These abilities are built on the foundation of parent-child relationship, peer relationship and teacher-student relationship (Semrud-Clikeman, 2007). Therefore, many researchers define social emotional competence through the perspective of meaningful relationship with family, peers and others. Attachment with the mother is the foundation of socialization for a child, as it provides the basis for the child's relationships with their families, teachers and peers (McCabe, & Altamura, 2011; Merrell, 2003; Pianta, Nimetz, & Bennett, 1997). Rubin and Rose-Krasnor (1992) argue that social

competence is the capability of accomplishing individual goals through interpersonal activities while pursuing meaningful relationships with peers. Raven and Ziegler (1997) hold that the social emotional competence refers to the ability to build appropriate relationships with parents and friends. Arthur, Bochner, & Butterfield (1999) consider that it is a connection of emotion management and social behaviors in pursuing successful relationships with other people.

In addition, evidence shows that gender differences regarding social emotional competence exist in children and adolescents. Romer, Ravitch, Tom, Merrell, & Wesley (2011) find consistent results that females have higher levels of positive social emotional functioning than males in a study of children and adolescents rated by cross informants.

In summary, social emotional competence is an integrated ability of emotional competence and social skills functioning together in social interaction. Emotional competence is referred to as the ability to understand the one's own and the other's intention in social interactions. Social skills are appropriate behaviors performed in different social situations and contexts.

Emotional Competence. Emotional competence plays a critical role in children's success in social communication (Ashiabi, 2007). Denham (2006) states that improving social emotional competence requires the abilities of emotion recognition, emotion regulation, empathy, problem solving and pro-social behaviors. Emotional competence is defined by three concepts: emotional expressiveness, empathy, and self regulation.

Emotional expressiveness. An important ability included in emotional competence is emotional expression. Children and adults can express their states of emotion in verbal and non-verbal ways, such as facial expression, body language and

voice (Kret & de Gelder, 2013). Emotional expression can convey one's happiness, sadness, anger, fear, anxiety, shame, guilty, pride and disgust (McDevitt & Ormrod, 2007). Children with high social emotional competency are usually good at expressing their emotions in appropriate ways. They can present their emotional information clearly at the right time, and with proper intension (Denham, 1998). In social activities, expressing emotions appropriately is useful in supporting and maintaining interpersonal communication (Ashiabi, 2007; McDevitt, & Ormrod, 2007).

The mastery of emotional expression is influenced by children's psychological development. As mentioned above, preschoolers can display a spectrum of emotions, including anger, sadness and happiness (McDevitt, & Ormrod, 2007). From newborn to kindergarteners, evidence indicates that the ways infants and young children display emotions vary according to their developmental stages (McDevitt & Ormrod, 2007; Semrud-Clikeman, 2007). According to the Erikson's theory of social-emotional development, there are eight psychosocial stages in a person's life, which are: trust versus mistrust, autonomy versus shame and doubt, initiative versus guilt, industry versus inferiority, identity vs. role confusion, intimacy versus isolation, generativity versus stagnation, and integrity versus despair (Erikson, 1963; Erikson, 1972). Erikson (1972) argues that people live through these eight stages based on a variety of challenges in the process of social activities and maintaining relationships with others. Children in their preschool years, ages from three to six years old, are in the stage of initiative versus guilt. In this period, they begin to develop their individual ways of understanding social activities.

Evidence supports Erikson's assertion that preschoolers pursue initiative through imaginative play, enthusiastic conversations and engagement with toys (McDevitt &

Ormrod, 2007). Studies also indicate that when children fail to obey the rule or keep with the standard, they will express guilt or frustration (Kagan, 1984; Kochanska, 1993). When children are two to three years old, their verbal and non-verbal expressions of happiness, excitement and anger are more frequent. However, children in this period tend to express their sadness through facial cues more than language (Malatesta, Culver, Tesman, & Shepard, 1989).

Children who usually display positive emotions tend to be popular with peers and are usually evaluated as having good social skills in interpersonal communication. Happiness, a positive affect, plays a vital role in supporting an energetic and enjoyable social interaction (Denham, Bouril, & Belouad, 1994; Garner & Estep, 2001). It is easy to understand that children with positive emotional states are good at making friends and communicating with peers and adults. In contrast, children who tend to express negative emotions find it difficult to be accepted by other children, teachers and adults (Garner & Estep, 2001; Hubbard, 2001). However, showing a relaxed and happy facial expression during a conflict may lead to a negative result (Arsenio, Cooperman & Lover, 2000). This kind of expression is associated with unsatisfactory peer relationship and deficits in socialization (Denham, McKinley, Couchoud, & Holt, 1990).

In sum, emotional expression has an essential effect on social interaction. Effective display of emotions is related to supporting and maintaining favorable social activity, while it also depends on the adaption of one's emotional expression to specific condition.

Empathy. The conceptual meaning of empathy across different studies varies. Researchers in last century considered that there were two parts of empathy: one is emotional empathy; the other one is cognitive empathy (Hoffman, 2000). The first

one is referred to as sharing affection, and the second one means to understand the others' emotional states (Hoffman, 2000). Empathy is the capability of understanding and having sympathetic emotional experiences with others when they appear to be in distress, grief or other emotions (Hoffman, 1991). Furthermore, empathy is a complicated construct with many possible facets of interpretation relating to the mechanism of cognition as well as emotion (De Waal, 2009). The emotional aspect of empathy is found in sharing others' feelings such as love, warm attitudes and caring, whereas the cognitive aspect involves the capability of understanding the thinking and feelings of others. In light of the integrated model of emotional processes and cognition in social information processing, the two facets of empathy are the key bases for social performance, albeit they have respectively different functions (Crick & Dodge, 1994; Lemerise & Arsenio, 2000). While emotional empathy helps to build a link between persons and is instrumental for harmonious relations between individuals, cognitive empathy helps to form precise and correct knowledge of the psychological moods of others (De Waal, 2009).

With the development of psychology and neurology, a comprehensive concept of empathy is generated (Gerdes & Segal, 2009; Gerdes & Segal, 2011). It includes three parts: 1) identify and experience the other one's emotion; 2) take the other one's perspective through cognition process; and 3) initiate an effective empathetic response.

Research indicates that empathy affects social interactions. Empathy plays a key role in the growth of social competence, as indicated in the developmental model of Emotion Intelligence (EI). It is also found that empathy is crucial to pro-social actions (Strayer & Roberts, 2004; Vaish, Carpenter & Tomasello, 2009). Empathy includes two important factors: 1) feeling recognition, which is the ability to experience the

other's feelings; and 2) the ability to arouse and show an emotional reaction during socialization (Hinnant & O'Brien, 2007).

Another important factor influencing young children's growth of empathy is the capability of understanding situations from another's standpoint, which is otherwise termed perspective taking (Fields & Fields, 2006). Deneault and Ricard (2013) argue that adaptive behaviors can be predicted by children's emotion understanding.

Although feeling recognition and emotional expression are equally crucial to developing social ability, many children having social problems are unable to recognize the relationship between the other's feelings and nonverbal expressions of emotions, such as facial expressions. Many studies concerning the area of the identification of facial expressions and other feelings are related primarily to children having social difficulties (Evers, Wagemans, Steyaert, & Noens, 2015; Kadak, Demirel, Yavuz, & Demir, 2014). However, such studies also are likely to be beneficial to children with other social or behavioral deficits. Once they receive the intervention targeted at enhancing empathy, they become better at problem solving and maintaining healthy friendships (Saltz, Dixon & Johnson, 1977).

Evidence indicates that the ability to understand others' perspectives reduces the frequency of conflicts (Corcoran & Mallinckrodt, 2000). Understanding one's own and the others' emotions helps children perform well in social adjustment. Children who are good at perspective-taking tend to behave more positively and express fewer negative emotions. It is also emphasized that the ability to recognize emotional cues is associated with good social adjustment (Goodfellow & Nowicki, 2009). Strayer and Roberts (2004) find that empathy is negatively associated with aggressive behaviors including verbal and physical aggression.

There are numerous studies that examine the empathy of children in special populations. Studies focusing on children with ADHD (attention-deficit hyperactivity disorder) find that it is difficult for them to identify and understand the facial expressions and to take the perspectives of others (Marton, Wiener, Rogers, Moore, & Tannock, 2009; Singh et al., 1998; Sinzig, Morsch, & Lehmkuhl, 2008). Children with conduct disorder have difficulties in expressing sadness through their facial expression (Woodworth & Waschbusch, 2008).

In sum, identifying others' emotion, taking others' perspectives and evoking empathetic response are critical in the process of social interaction. The ability to empathize has positive effects on successful communication, problem solving and avoiding conflicts. Children who understand other children's perspectives are considered to have good social skills as rated by their teachers (Cassidy, Werner, Rourke, Zubernis, & Balarman, 2003). Generally, children who have the ability to empathize have better social competence in dealing with problems in peer conflicts.

Self regulation. Self regulation has multiple dimensions of implications and has been recognized as a vital factor in influencing children's academic and social success. In the past two decades, numerous studies have examined the effects on human development of self regulation (Barkley, 1998; Brody & Flor, 1998; Raver, Blackburn & Bancroft, 1999). Some researchers view it as ways to control one's emotion and behavior in adaptive ways to different situations (McDevitt & Ormrod, 2007). It includes impulse management (keeping one from abrupt impulse leading to harmful results); emotion regulation (proper emotional expressions in social interaction and appropriate management of emotions); self socialization (being apprehensive of social rules and willing to act to comply with them); goal setting (recognizing and making efforts to meet self-determined goals); delaying gratification (in order to earn greater

success, one can give up instant rewards); self motivation (self-efficacy in striving for goals); and self-regulated learning (regulating one's attention and making effective plans in the process of learning) (McDevitt & Ormrod, 2007). However, in many studies self regulation is defined solely as emotional regulation. Zachariah (2011) argues that self regulation is referred to as the capability to deal with tough emotional status and to manage emotions when adapting to social circumstances.

Sound self regulation is beneficial for building self-confidence, self-awareness and interpersonal relationships (Chernokova, 2014; McDevitt & Ormrod, 2007; Merrell, 2003; Semrud-Clikeman, 2007). A cluster of influential elements can affect the management of emotion as a child grows up, such as psychological development, social circumstance, opportunities to solve problems, and supports from family and society (Saarni, 1999). Emotion regulation is considered as an important aspect of socialization in early childhood. With children's psychological development, cognition and multiple intelligences, schools offer more opportunities for children to experience emotion regulation (Cole, Martin, & Dennis, 2004).

Learning in preschool and kindergarten is very important for children, because they start to obtain and apply their abilities to adjust their social behaviors. Self regulation helps children adapt themselves to different environments, and to be socially acceptable and personally effective (McDevitt & Ormrod, 2007). Self regulation is considered to be one predictor of children's future school readiness and academic success. Evidence indicates that unsuccessful regulation of negative emotions, such as anger, frustration and depression, leads to dropping out of active studying in school (Blair & Diamond, 2008). Children with deregulated emotions tend to have challenges in learning, as compared to children who are good at emotional controlling.

As for preschoolers, one of the most important tasks is to have the ability to manage one's emotions in order to achieve successe not only in academic but in social interactions. Bottoms (2013) explains the effect of emotion regulation on social functioning. He finds that persons who are lacking emotion regulation have poor social functioning, based on their self-reports. Spritz, Sandberg, Maher, & Zajdel (2010) contend that emotion regulation plays a vital role in social skills and positive relationships with teachers, as well as peer acceptance. Maladaptation of emotion management is associated with both internalizing and externalizing problems. Children with poor control of negative emotion are inclined have to severe internalizing problems, such as depression and anxiety (Eisenberg et al., 2001). In addition, children with low levels of self regulation are apt to exhibit misbehaviors, impetuosity, aggressive behaviors and disordered behaviors (Skibbe, Brophy-Herb, Phillips, Day, & Conner, 2012)

Social Skills. According to Elksnin and Elksnin (1995), the term social skills is the ability to perform appropriately according to a specific task. Stephens (1978) defines social skills as a range of behaviors related to social function, including environmental behaviors, interpersonal behaviors, self-related behaviors and task-related behaviors, all of which impact social functioning. Cartledge and Milburn (1995) expand Stephens' theory of social skills into three items: interpersonal skills, self-related behaviors and task-related behaviors. The following table (Table 2) shows Cartledge and Milburn's description of the term social skills, divided into three categories: interpersonal skills, self-related behaviors, and task-related behaviors.

Table 2. “Social Skills” by Cartledge and Milburn (1995)

Social Skills (Cartledge and Milburn, 1995)		
Interpersonal skills	Self-related behaviors	Task-related behaviors
Accepting authority Coping with conflict Gaining attention Greeting others Helping others Making conversation Organized play Positive attitude toward others Playing informally Property: own and others	Accepting consequences Ethical behavior Expressing feelings Positive attitude toward self Responsible behavior Self care	Asking and answering questions Attending behavior Classroom discussion Completing tasks Following directions Activities Independent work On-task behavior Performing before others Quality of work

Other scholars consider social skills to be a series of complex behaviors including communication, problem solving and decision-making, personal interaction and self-management (Kolb & Hanley-Maxwell, 2003).

In the U.S., the National Association of School Psychology (NASP) illustrates that social skills drive people to know “what to say, how to make good choices, and how to behave in diverse situations” (National Association of School Psychologists [NASP], 2015). The social skills are categorized into four types: survival skills (attention, good communication, following rules, and self rewarded); interpersonal skills (turns waiting, sharing, and participation in games); problem-solving skills (seeking help, decision making, and knowing how to apologize) and conflict resolution skills (coping with different types of conflicts) (NASP, 2015).

In China, the Ministry of Education issued the “The Outline of Kindergarten Education Guidance” (Outline) in 2001 (Ministry of Education of the People's Republic of China [MOE of PRC], 2001). It emphasizes the effects of an integrated curriculum in kindergarten. The educational content is comprehensive, enlightening,

and can be relatively divided into five areas with health, language, social skills, science, and art, but there are also different divisions (MOE of PRC, 2001). The five areas mutually interact with each other to promote the development of children's emotion attitudes, abilities, knowledge, skills and other aspects. As for the social development, the main targets are active participation in various activities; self-confidence; willing to work with people; learning cooperation and sharing; building sympathy; understanding and complying with basic rules of social behavior; sense of responsibility; problem solving ability; respect for parents, teachers and the elders; and love of family and the country (MOE of PRC, 2001).

The Ministry of Education in China issued the "Guide of Learning and Development for Children from Three to Six" ("Guide") in the year 2010. The expert panel in early childhood education spent six years developing this "Guide" based on studying related policies from 13 countries and two years of research. This research recruited approximately 3,600 children, their parents and their teachers in China (MOE of PRC, 2010). More detailed explanations and standards of every field are provided. According to this "Guide", social development for children aged three to six years is categorized into two parts, interpersonal behavior, and adaptive behavior. Many examples and concrete behaviors are listed and categorized into the subgroup of the two basic types of interpersonal behaviors and adaptive behavior, as displayed in Figure 1.

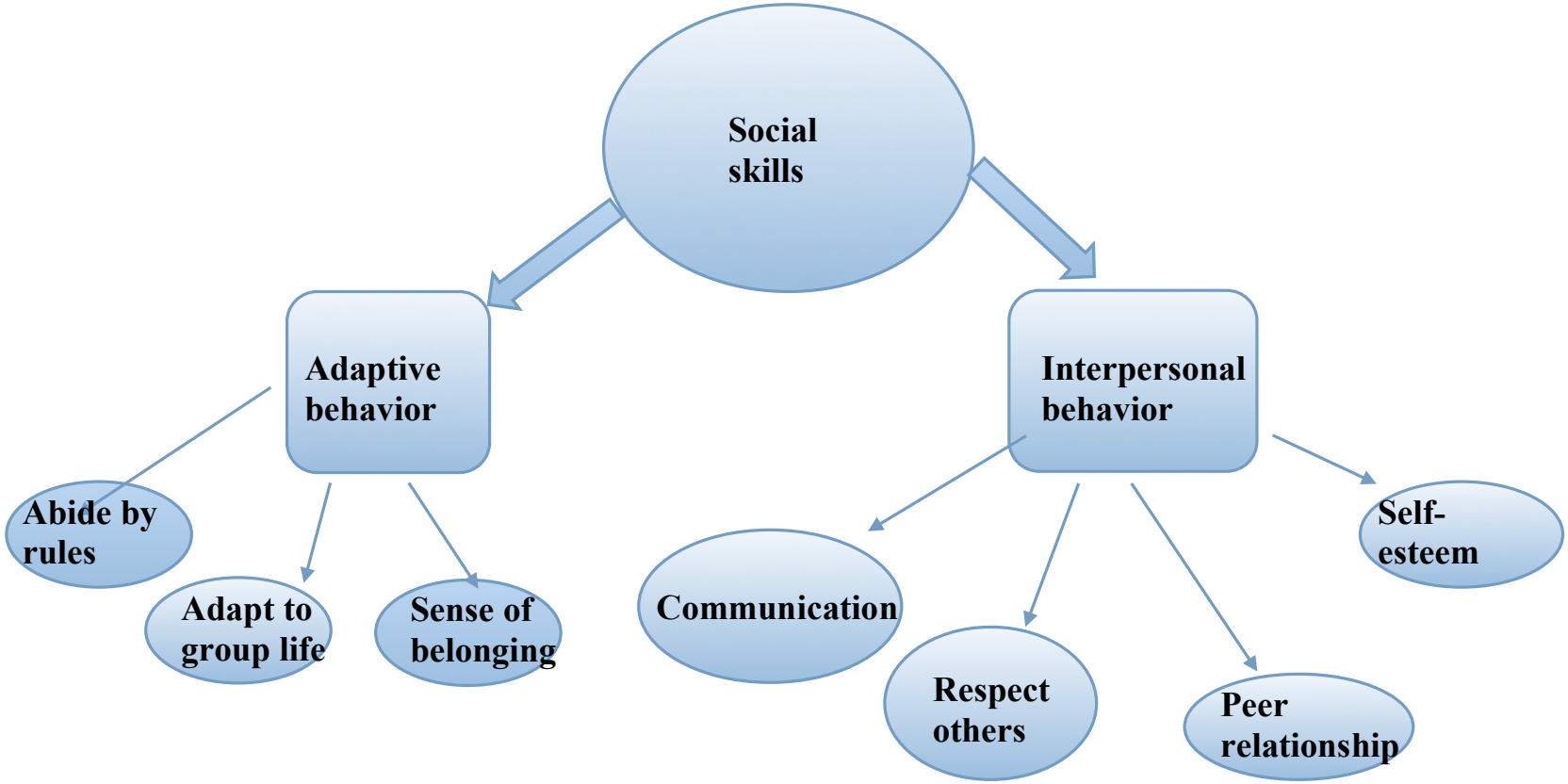

Figure 1. Social Skills Adapted from "Guide of Learning and Development for Children from Three to Six Years of Age" (MOE of PRC, 2010).

It is pointed out that the social development process of children from three to six years old is the basis for improving their socialization and healthy personalities, mainly including interpersonal behaviors and social adaptation identified in the "Guide". Early childhood is the key period for social development; good interpersonal and social adaptation have positive impacts on children's physical and mental health development, academic achievement and intellectual development. Engaging in communication with adults and peers, children can learn not only how to get along with people, but also how to see themselves, practice positive ways to treat others, and gain abilities to acquire skills to adapt to social life (MOE of PRC, 2010). Table 3 shows the requirements from the "Guide of learning and development for children from three to six" (MOE of PRC, 2010).

Table 3. Development of Social Skills in Interpersonal Interaction (MOE of PRC, 2010).

Age three to four years	Age four to five years	Age five to six years
1. Be able to ask to join peer's games in a friendly manner. 2. Learn not to fight for or grab toys selfishly following adult's instructions. 3. Able to understand and accept persuasion when running into conflicts with other kids.	1. Able to join peer kids' games employing simple social skills as self-introduction and toy exchange. 2. Able to share and share in turns things that attract everyone. 3. Able to accept peaceful solution with help of others when in conflict with peers. 4. Ready to accept others' opinions and suggestions in games. 5. Not bully others.	1. Able to find ways to attract other kids to join in games. 2. Capable of cooperating and sharing tasks with others and solving problems in activities. 3. Able to seek solutions by oneself to settle conflicts with peers. 4. Able to listen and take different opinions from others and explain reasons when not agreeing. 5. Not bully others and not allow oneself to be bullied.

Several studies have been conducted to find ways to improve social skills using multiple methods. Social emotional learning curricula are widely implemented in schools in the United States. Much evidence indicates that social emotional curricula improve empathy (Cefai, Ferrario, Cavioni, Carter, & Grech, 2014; Feuerborn, & Tyre, 2009; Georgi, Petermann, & Schipper, 2014; Smith, & Low, 2013) and social competence (Bowden, 2015; Raimundo, Marques-Pinto, & Lima, 2013). Elliott & Gresham (1991) consider that social skills can be learned through training procedures: observational learning, instrumental learning and respondent learning. They also identified four strategies in social skills training, which are instruction, rehearsal, feedback/reinforcement and reductive procedure. A study which utilizes a social skill training treatment for thirty two showed that there was a stable decline of negative behaviors of the boys and increase of positive response from their peers after the intervention (Bierman, Miller, & Stabb, 1987).

Some studies recruited participants with the diagnosis of autism disorder (Eren, 2015; Schwartzberg, & Silverman, 2013; Shi, Lin, & Xie, 2016) and social skills deficits (Gooding, 2011). Gooding (2011) uses a music therapy-based intervention program on improving social skills for children and adolescence that have social communication deficits. The results show that this kind of music therapy has a positive functioning in improving the participants' social skills in different settings. Music activities can be considered as an effective vehicle for addressing social skills deficits in children and adolescents. In sum, although the definition of social skills varies, there are also common views about effects of interventions to change certain behaviors.

Responsibility. Responsibility can be categorized into personal responsibility and social responsibility. Lavay, French, & Henderson (2006) consider that personal

responsibility refers to the ability to set goals and find ways to make them; understand and agree with others' ideas and keep promises; accept personal achievement. Social responsibility refers to the ability to respect others' rights, property, and honor; have good interpersonal relationships; know how to work in teams; and solve problems and conflicts effectively. Evidence indicates that these two types of responsibilities are related to human's interpersonal relationships, development of cognition and success in adulthood (Freiberg, 1999; Balderson & Sharpe, 2005).

Further, responsibility is recognized as an important influence on social emotional competence. The subscale of responsibility is involved in the Social Emotional Assets and Resilience Scales (SEARS) as a vital element of social ability (Merrell, Cohn, & Tom, 2011). In another measurement developed by LeBuffe, Shapiro, and Naglieri (2009), called the Devereux Student Strengths Assessment, personal responsibility is considered to be one important part of social emotional competence.

Summary. The first section of this review of the literature explains an overview of social emotional competence. Besides emotional competence and social skills, social emotional competence can be influenced by many other psychological determinants. Evidence indicates that temperaments, personalities, self-concept and self-awareness have direct and indirect impacts on emotional management and social behaviors (Laible, 2004; Merrell, Cohn, & Tom, 2011; Raimundo, Marques-Pinto, & Lima, 2013; Semrud-Clikeman, 2007). As for children aged from three to six years, early childhood is a crucial stage for children to develop self-awareness, self-concept and self-perception (Bredekamp & Copple, 1997; Harter, 2006; Kostelnik, Whiren, Soderman, & Gregory, 2009). Preschoolers and kindergarteners can become effective in feelings management, empathy, emotional expressiveness and emotion

understanding (Kostelnik et al., 2009; Colwell & Hart, 2006; Abe & Izard, 1999). As a result, young children can build and maintain friendships through interactions, teamwork, and plays. Social skills in effective communication, as characterized by following rules, taking responsibilities and showing affection, help children win success in peer relationships. Social skills are an important predictor of social competency in later school years (Waters & Sroufe, 1983). Peer acceptance is a vital influence on young children's further development of social competency, because good peer relationships offer more opportunities for the practice of social skills in interpersonal communication (Merrell, 2003).

In this inquiry, the researcher employed an instrument, the teacher form of Social Emotional Assets and Resilience Scales (SEARS-T) accessed through Psychological Assessment Resources (PAR), to collect data of social emotional competence from migrant kindergarteners in suburban areas in Shanghai, China. The teacher form of SEARS has four subscales: Self regulation, responsibility, empathy and social competence (Merrell, 2011). Different from other traditional instruments in social emotional competence, the SEARS is an assessment tool focusing on wellness, assets and positive aspects. Detailed information about this instrument is discussed in Chapter Three.

The Challenges for Schools in Suburbs of Shanghai

The "*Household Registration System*" in China is based on geographical position and leads to a binary system (city versus rural) of population management (Knight et al., 1999). This binary system causes an orientation called "city centered," which means cities have the priorities of development and other various aspects over rural and suburban areas (Wu, 2012; Zhang, 2012).

Although China is in a period of a new era in which the urban-rural relations shift from dual system to unified system, this "city center" orientation is still embodied in the public education policy (Li, 2014; Wu, 2012; Zhang, 2012). In recent years, China's economy has maintained high speed development, and urbanization has been accelerating. A large number of migrant workers have moved from rural areas to cities, living in the suburban areas (Wu, 2012). In Shanghai, there are a total of 17 county level administrative division units in the city, including 16 districts (Huangpu, Xuhui, Changning, Jingan, Putuo, Zhabei, Hongkou, Yangpu, Minhang, Baoshan, Jiading, Pudong New Area, Jinshan, Songjiang, Qingpu, Fengxian and Chongming). Generally, the districts of Minhang, Baoshan, Jiading, Qingpu, Songjiang, Jinshan, Fengxian, parts of Pudong New Area, and Chongming District are considered to be suburban areas (Shen, 2008). Under the binary system, educators in suburban areas in Shanghai face critical challenges (Shen, 2008). Two main problems are the shortage of teachers and the high proportion of migrant children from other provinces of China.

Shortage of qualified teachers. With the increased pace of urbanization in Shanghai, huge city populations are moving out from the downtown area to the suburbs. Meanwhile, large numbers of migrant workers from other provinces, with their families, are pouring into Shanghai (Shen, 2008). They are more inclined to settle in suburban areas where there are more job opportunities and lower house rental rates. This leads to a serious shortage of kindergarten and elementary teachers in the suburbs (Wu, 2012). In addition, there is an imbalance of teacher resources between the urban districts and the suburban areas (Li, 2014; Shen, 2008; Zhang, 2012). Most of the teachers with higher educational levels and sufficient working experience prefer to work in schools in the urban districts because of the better wages and convenience of public transportation.

Migrant Children. The "*House Hold Registration System*" in China, known in China as "*Huji*", sets up restrictions for residents of cities and rural areas. According to this system, migrant families living in the cities who are originally from other provinces are considered as "temporary" inhabitants (Knight et al., 1999). The essential function of this system is to control domestic migration. However, with the development of huge municipalities in China, such as Beijing, Shanghai and Guangzhou, large populations of migrant workers and their families leave their hometowns to go to these large population centers to find jobs. According to the Sixth Census of China in the year 2010-2011, approximately 35,810,000 migrant children live with their parents or guardians away from their hometowns (ACWF, 2013). In Shanghai, four out of every 10 children are migrant children. As the number of migrant children increases, they encounter many economic, social welfare and social-cultural obstacles that make it difficult for them to adapt to city life (ACWF, 2013). Furthermore, because of the imbalance of economic development, this system does not allow temporary residents to have all the same privileges as local residents. As a result, migrant children usually have stresses derived from the unequal status in the society (Liuna, Wenjun, & Yiqing, 2012).

Migrant workers and their families usually have fewer benefits for social welfare, medical services and social security than the local residents. These kinds of psychological and social stresses can be indirectly or even directly transferred to their children (Hu et al., 2014). One study addresses the topic of mental problems of migrant children in Shanghai (Wong et al., 2009). The authors argue that children of migrant workers are more likely to have problems of dysphonia, negative emotions, and depressed feelings than local residents. The results of the study indicate that children of migrant workers have a higher risk of mental illnesses than average level

of residents. The authors also identify several risk factors in influencing children's psychological wellness: age, gender, peer acceptance, and family harmony. In a related inquiry, Chen et al. (2009) imply that shyness is related to interpersonal interaction, depression and adaptive behavior in migrant children in cities. The authors describe the gender difference in the relationship between shyness and social success, academic achievement and mental wellness. The authors' purpose is make their readers aware of the conditions of migrant children's mental status and advise paying attention to the problems of migrant children in China. Evidence shows that the social loneliness of migrant children is significantly higher and their sense of happiness is lower than the local children in cities (Xu & Liang, 2009; Yao & Hao, 2013).

Generally speaking, many factors make it difficult for migrant children to adapt to their city lives. These elements can lead migrant children to have unhealthy mental states. They may experience depression; separation anxiety; feelings of inferiority and loneliness, may perform poorly in self regulation, adaptive behaviors and habits; and may have lower academic achievement (Hu et al., 2014; Chen, & Feng, 2013).

In this current study, the target population is kindergarteners from migrant families in a suburban school in Shanghai. Because of the shortage of qualified teachers and the higher proportion of migrant children, children in suburban kindergartens may have potential risks for marginalization and psychological wellness and development.

Functions of Music and Musical Activity

The present age of unprecedented information accessibility and sharing creates huge possibilities of music for different forms, to be used not only for acoustic functions, but also to general and parallel skills. The function of music can be

simulative and excite the receivers, or may be sedative and serve to soothe listeners' emotions or intellects. Music is found to have impacts on people's ways of behavior, feeling and even cognition. In a broader view, music makes contributions to various abilities of human beings.

Social Function. The music making process impacts people's sociability. Some aspects concerning this are: co-operation, verbal and non-verbal communication, positive peer interactions, peer collaboration, recognizing and supporting the rights of others, dependability, responsibility, attention control, delayed gratification, and acceptance of consequences (Hargreaves, et al., 2003; McClung, 2000). Utilizing the above-mentioned social aspects, musical experiences can be functional in helping establish and maintain interpersonal relationships. Hargreaves et al. (2003) consider that "most musical activity is carried out with and for other people. It is fundamentally social and so can play an important part in promoting interpersonal skills, teamwork, and co-operation" (p. 160).

Music, due to its generally non-threatening nature, allows individuals of different levels of talent to participate with ease and pleasure. Therefore, it can be used as a tool to teach social skills and at the same time improve individuals' aesthetic quality of life. In fact, music also can be used to teach non-musical skills. Evidence indicates that musical experiences can be employed to teach social behavior, structure positive peer interaction, stimulate nonverbal expression, facilitate self-expression, develop interpersonal skills, develop group cohesion, improve on-task behaviors and enhance level of empathy (Clark & Giacomantonio, 2013; Jucan & Simion, 2015; Laird, 2015; Logenswaran & Bhattacharya, 2009; Marin, Gingras, & Bhattacharya, 2012; Ohrt, Foster, Hutchinson, & Ieva, 2009; Reid, Hill, Rawers, & Montegar, 1975; Sharer, 1994; Steele, 1977). In other studies, music has a demonstrated effect on increasing

social behaviors. It is found that contingent music can be an effective reinforcement for both academic and social material. This idea has been demonstrated by the research by Standley (1996), who concludes that academic and social behaviors, not contingently reinforced, showed generalized benefits.

Music, as part of our culture, can influence and be influenced by many cultural aspects, such as the media, commerce, and national traditions. In this respect, music often has a profound effect on identity development and expression. This is typically found to be true for children and adolescents who consider their musical preferences as a "badge of identity" (Hargreaves, et al., 2003, p. 152). For these groups of young people, listening or participating to certain type of music directly reflects their own identity, or their identity with a particular group or subculture. Research indicates that social aspects are often important factors in motivating children to get involved in music. These motivations include the following: enjoying making music in a group, wanting to meet new friends, or even wanting to spend more time with existing friends (Adderley et al., 2003).

The social aspects of music can not only promote participation, but also support continued musical involvement. Some scholars suggest that children are nurtured socially by participation in musical activities, which in turn reinforces continued participation (Adderley et al., 2003). Results of research conducted by Conway and Borst (2001) with choral music education students further support the idea that music is socially reinforcing, as participants listed their reasons for continued music participation, such as socialization, camaraderie, teamwork, and working with a group. In much the similar way, Fredrickson (1997) states that college aged non-music majors are more likely to continue their participation of the musical ensemble when they had positive interactions with other members. Finally, music teachers who are

considered exemplary displayed high frequencies of social competence and social intelligence, which therefore might increase their success and potentially increase their long-term development in the profession.

Other functions. Multiple research inquiries indicate that music education plays an important role on targeted skills involved in other subjects and psychological effects for young children and teenagers.

Music training may foster successes and high performance in other academic domains and psychological development. Evidence shows that music learning is correlated with math, language learning, visual and spatial skills, literacy abilities, and scientific subjects (Bahr & Christensen, 2000; Chobert, Marie, François, Schön, & Besson, 2011; Corrigall & Trainor, 2011; Gromko, 2005; Moreno et al., 2011; Orsmond & Miller, 1999; Piro & Ortiz, 2009).

The psychological effects of music appear to play a role in managing mood, influencing choice making, and changing attitudes. The literature shows that music can be used to influence mood states or manage levels of arousal (Hargreaves & North, 2003; Magee & Dacidson, 2002; North & Hargeaves, 2000; Pelletier, 2004; Waldon, 2001). Darrow, Johson and Olleberger (1994), studied teens and senior adults who participated in an inter-generational choir, and found that the activity can lead to more positive attitudes toward the opposite group for both age groups. Children's attitudes toward children with disabilities become more positive through the media of music.

In summary, music is recognized to have significant effects on both cognitive and emotive developments. Music education can address both musical goals and non-musical goals and musical skills as well as general skills. In general, music and music

education make valuable and meaningful contributions to the global development of human beings.

Orff Schulwerk

Orff Schulwerk (school work) is a music education approach for children, adolescents and adults, and was founded by Carl Orff (1895-1982), a German musician and music educator. Carl Orff generated the basic approach for teaching music to adults at the Guntherschule in Munich between 1924 and 1936. This approach is based on his own experiences in education and cooperation with Dorothee Günther (1896-1975), who was a dancer in Germany (Campbell & Scott-Kassner, 1995). The original target population for teaching through Orff Schuwelk was older students. Later, the method was adapted for younger children. The philosophy of Orff approach is that all children have the right to enjoy music regardless of their natural talents for music (Li et al., 2011). Usually, the style of using Orff Schulwerk is through group instruction in classrooms where active learning and teaching happen in the ways of singing, speech, movement, body percussion and playing instruments (Mason, 2008). Therefore, the elements in Orff Schulwerk are not only "sound" or "voice" but also dance and instruments, which consider the active innate portraits of children in different developmental stages. This kind of primary school experience simulates young children's imagination and provides opportunities for emotional development (Steen, 1992).

One concept developed by Orff is called "Elementar Musik" (elementary music) (Siemens, 1969). The nature of music is a combination of a variety of activities, rather than referring only to the sound. It is an integrated social activity with movement, language and dance where the participants are involved in music, not as audience members but as performers (Li et al., 2011). One key idea of this approach is that

children can make music. Orff Schulwerk combines speech, singing, movement, and instruments together in order to improve children's confidence and musical competence through musical activities (Orff & Keetman, 1982).

Speech. Speech exercises including rhythm, texture, tone, color, structure, and expression are the beginning of teaching music for children in the Orff Schulwerk approach (Li et al., 2011). Children talk naturally with peers and parents on a daily basis. In Orff Schulwerk, teachers lead students in speech exercises for rhythm speaking, where they teach the words, and then transfer the words into different rhythm patterns, similar to the pulse of a nursery rhyme. Teachers can add accompaniments with their rhythmical speech, such as playing piano, clapping, drums playing or digital music.

Singing. When adding words into a melody with rhythm, a song is composed. Teachers, using the Orff approach, can teach children singing with native folk songs (Chang, 2006). Children improve their emotional competence through this process. They understand and express their emotions, such as happiness, sadness, pride, and love according to the moods and content of the music and lyrics (Li et al., 2011).

Movement. In music, the tempo, phrase length and style can all be demonstrated by using movements of the body. In Orff Schulwerk approach, improvised body movement encourages free exploration and creation, and the ability and habit thus acquired will later be effective in compositions and instrumental improvisations (Li et al., 2011).

Movement is different from dance, because dance is aimed at performing certain movement techniques and self-expression, whereas movement in the Orff approach is an activity to explore the music more freely for children (Li et al., 2011). Movement can be integrated into other activities, such singing and instrument playing, as long as

there is a rhythm that children move with. Teachers can organize creative movement for children in a circle or other shapes in classrooms and lead children to walk, run, hop, move hands, leap with the rhythm of music (Li et al., 2011).

Orff instruments. The typical instrument used in Orff classrooms is a series of barred instruments. The barred instrument is a series of percussion instruments made of wood or metal bars. Children can use special mallets to play with these instruments, such as xylophones, metalaphones, and glockenspiels. Generally, it is very easy for children to play them, because teachers usually guide students to play ostinato, a repeated pattern of melodies, in instrumental ensembles. In addition, the B and F bars can be removed and the rest of bars can form a pentatonic scale. In this way, children can play the instruments without disharmonious sounds.

According to Orff Schulwerk, music learning begins with listening and imitating. After that, improvisation should be included. Orff considered that music comes from nature and relates to the rhythm in language and movement (Orff & Keetman, 1982). Instead of paying much attention to studying music technique or music theory, Orff music education holds that experiencing the essence of music is the most important for children in early childhood. Children should feel music through creative, improvisational activities.

In addition, Orff Schulwerk is considered as a kind of music therapy when working with children or adults with psychological disorders or physical disabilities. Orff (1989) provides examples and a rationale for Orff music therapy that include the concepts of initiative versus imitation in client-therapist interactions. These clinical examples provide an opportunity for psychologists and educators to look into the possibilities of the effects of the Orff approach as a therapeutic medium in music therapy. Orff (1989) explains that developments in different domains for children are

like “locks” and Orff training is a search for “keys”. Children find the keys and open these various domains through music activities. Evidence shows that the Orff-based approach has an effect on children’s psychological development. Dezfoolian et al (2013) conducted a pilot study in order to determine the effectiveness of Orff music therapy on social interaction, verbal communication, and repetitive behavior of children with autism. The results indicated that children in this study improved their social interaction and verbal communication and decreased their repetitive behavior with participation in the Orff musical program.

Yun & Kim (2013) addressed the psychological activities of children from low-income families using the Orff approach. The authors conducted an experiment with Orff-based musical program and tested the participants’ self-expression, self-efficacy, social skills between experimental group and control group. Their findings indicated that that after a 16-week intervention, children in the experimental group made significant progress in these aspects.

Chapter Summary

Early childhood education serves to facilitate the development of children in different aspects as the foundation of future education and lifelong development (Barbarin et al., 2006; Bornstein et al., 2010; Rose-Krasnor & Denham, 2009). One of the goals of early childhood education is to enhance social emotional competence in children, which is recognized as an important determinant for children’s future social interaction and school readiness. As a result, researchers and scholars in education are conducting studies and interventions to improve social emotional competence of young children.

Based on the conceptual framework of integrated curriculum, teachers and educators strive to improve children’s social skills and emotion competence with a

curriculum that connects two or more different subjects. Evidence from this review of the literature indicates that music and music education have functions influencing young children's mental status and behaviors (Heagreves & North, 2003; Magee & Dacidson, 2002; North & Hargeaves, 2000; Pelletier, 2004; Waldon, 2001). In addition, many children in suburban areas in China, a disadvantaged group, are experiencing social inequity and are considered as a population who are at potential risk of psychological maladaptation (Shen, 2008; Wang, 2013). Therefore, this dissertation is to inquire into ways to improve migrant kindergarteners' social emotional competency with an integrated method that combines Orff music curriculum and social emotional training.

Chapter 3: Methodology

The goal of this dissertation study is to determine the effects of an Orff-based musical intervention on migrant kindergarteners' social emotional competence in suburban areas in Shanghai. This chapter describes the design of the Orff-based musical intervention, the procedures of the study, the setting of the study and the methodology that is used to examine the effects.

Purpose of the Study

The pilot study intends to test the validity and reliability of an instrument in the context of Chinese kindergarten. The name of this instrument is the teacher form of Social Emotional Assets and Resilience Scales (SEARS-T) (Merrell, 2011). The purpose of this instrument is to measure the social emotional competence and assets of children and adolescents.

Social emotional competence is an important predictor of children's mental health, their display of positive behaviors and development in the coming periods of adolescence and adulthood. It is a complex psychological construct that is associated with later school readiness and social success (Odom, McConnell, & Brown, 2008; Rose-Krasnor & Denham, 2009). Early childhood is an important period to conduct interventions to remediate social, emotional, and behavioral maladjustments (Manning, Homel, & Smith, 2010; Nelson, Westhues, & MacLeod, 2003; Nix, 2003). In addition, integrated curriculum is considered as an effective teaching method to improve children's various developments in childhood. In this current study, the Orff-

based musical curriculum is an integration of a musical program and social emotional learning curriculum. Therefore, the purpose of the main study is to understand the effects of using Orff-based musical curriculum on the social emotional competence of migrant kindergartners in a suburban school in Shanghai, China.

The methodology is guided by the following research questions (RQs):

RQ1: Does participation in an Orff-based musical curriculum improve migrant kindergarteners' responsibility after controlling for gender and initial levels of responsibility?

RQ2: Does participation in an Orff-based musical curriculum improve migrant kindergarteners' self regulation after controlling for gender and initial levels of self regulation?

RQ3: Does participation in an Orff-based musical curriculum improve migrant kindergarteners' empathy after controlling for gender and initial levels of empathy?

RQ4: Does participation in an Orff-based musical curriculum improve migrant kindergarteners' social competence after controlling for gender and initial levels of social competence?

Design and Methodology

Nature of the study. The pilot study is a quantitative study that intends to test the validity and reliability of SEARS-T in the context of Chinese kindergarten. The pilot study, in evaluating the convergent validity of the SEARS-T, also requires the teachers to complete the Chinese version of teacher form of the Student-Teacher Relationship Scale (STRS) hypothesized to be related to their students' social emotional competence. The exploratory research done in the pilot study provides some of the first empirical data regarding using appropriate instrumentation to assess

the Chinese teachers' perspective of children's social emotional competence, which serves as the dependent variable in the main dissertation study to follow.

The main study is a quantitative study that analyzes the effects of the Orff-based musical intervention on the social emotional competence of migrant children in suburban kindergarten school in Shanghai. The researcher compared the treatment group with the control group to examine the significance and degree of mean differences between them. The research is a quasi-experimental design. In educational studies, quasi-experimental design is the most common type of experimental designs (Grimm & Yarnold, 2010). Based on the literature review, social competence for children is defined as follows: social emotional competence is an integrated ability of emotional competence and social skills. Emotional competence is referred to as the ability to understand one's own and the other's intention in social interactions that includes emotional expression, self regulation and empathy. Social competence is appropriate behaviors and skills performed in different social situations and contexts. Under these concepts, social emotional competence can be conceptualized as a composite of four variables: responsibility, social competence, self regulation, and empathy.

Participants. In China, it was estimated in 2010 that there were more than 35,810,000 migrant children who were under 17 years old (ACWF, 2013). In Shanghai, the number of children in suburban areas has been growing due to the urbanization of Shanghai and an increasingly larger population of migrant workers (Shen, 2008; Zhuang & Wang, 2010). Suburban schools in Shanghai are experiencing the challenges brought about by these factors. In this current study, participants are five to six years old children in a suburban kindergarten school in Shanghai.

In a quasi-experimental investigation, usually nonprobability sampling is used (McMillan & Schumacher, 2010). There is no requirement of random selection of the samples from a population. Rather, researchers seek a convenient sample that represents certain types of characteristics (McMillan & Schumacher, 2010). Specifically, in this study, the selection of kindergarten classes to use was based on the following criteria: the study site was selected in a suburban area (Jiading District) in Shanghai; children were five to six-year-old kindergarteners, and the proportion of migrant children in the sample was 100%. The software "G*power" (available for free from this website: http://www.gpower.hhu.de/en.html) was used to calculate the needed sample size, to detect a medium effect, with power set to .80 and an alpha level of .05. The calculation suggested that at least 55 subjects be recruited in this current study.

Two kindergarten classes with 28 children in each class, from five to six years of age, were to be selected, wherein both of each class would be children of migrant workers. One class was to be randomly assigned as the control group, with the other one serving as the treatment group. Each class had two classroom teachers taking charge of their daily activities. When selecting the classes of students, criteria related to teacher characteristics also were considered. Teachers needed to have worked with the children for at least six months so that they would know them sufficiently well to complete the data collection instrument pertaining to their students. In addition, the researcher tried to select control and treatment group teachers who had similar educational training and work experience. The sampling unit was the class but individual students served as the unit of statistical analysis.

The researcher submitted the research plan to and received approval from the University of the Pacific's Institutional Review Board (IRB) for the Protection of

Human Subjects. No data was collected for the pilot or main study until after IRB approval had been secured.

Variables. There were four types of variables in the study: Dependent variables, independent variable, control variables and covariate.

Dependent variables. The dependent variables are indicators of the social emotional competence construct. In addressing RQ1 to RQ4, the dependent variables are responsibility, social competence, self regulation, and empathy (components of the social emotional competence construct). To measure these components, the Chinese version of teacher form of Social Emotional Assets and Resilience Scales (SEARS-T-CH) was used to create four subscale scores, after modifying the scale for use in China (as described below).

Independent variable. The condition (whether the children receive the Orff-based curriculum or not) was the independent variable. In other words, children in the treatment group received the Orff-based musical curriculum with goals of improving their social emotional competence while children in the control group did not.

Variable statistically controlled. The control variable was gender.

Covariate. The initial pretest scores of the subjects' responsibility, self regulation, social competence, and empathy were treated as covariates. The measurements of these covariate variables were also based on teachers' responses to the SEARS-T-CH. To compensate for the lack of random assignment (due to the quasi-experimental design employed), the pretest scores were treated as covariates. Table 4 summaries the function of each variable used in the study.

Table 4. Summary of Variables by Function.

Item	Content
Independent variable	Whether or not the child was a member of the class where the Orff-based curriculum was implemented
Control variable	Gender
Covariate	Specific and matched pretest score on the specific social emotional competence subscale that matches the posttest subscale score used as the dependent variable
Dependent variables	Social emotional competence posttest subscale score (employed in four separate analyses): • Responsibility; • Social competence; • Self regulation; • Empathy.

Instrumentation. In the main study, teacher participants completed the Chinese version of teacher form of Social Emotional Assets and Resilience Scales (SEARS-T-CH) to provide their perspectives of their students' social emotional competence.

Social Emotional Assets and Resilience Scales. The teacher form of an instrument called the Social Emotional Assets and Resilience Scales (SEARS-T) is employed in the present study to assess social emotional competence.

The developers of the SEARS-T note that its function is to screen and assess the social emotional strengths, assets, resilience and adaptive behaviors to be needed in resolving problems in daily social activities (Merrell, Cohn, & Tom, 2011). The original English version of the SEARS-T was designed as "a cross-informant system for measuring the social-emotional competencies and assets of children and adolescents" (Merrell, Cohn, & Tom, 2011, p. 2).

The teacher form is designed to assess the perspective of those who know the student well, such as teachers, school counselors, and speech pathologists (Merrell et al., 2011). The form is designed for assessment of students in grades K to 12 or ages

of five to 18 years. There are two parts in the instrument of SEARS-T. One is for collecting data of the demographic information of the children and the teacher raters. The other one includes items for investigating the social emotional competence of the children that reflects a spectrum of behaviors of displaying social competency of children (Merrell et al., 2011). It has 41 items comprising four subscale scores: Responsibility, Social Competence, Self Regulation, and Empathy. The content of the SEARS-T is available within Table 1 on page 232 of the *School Psychology Review* article by Merrell, Cohn, & Tom (2011), allowing interested readers the opportunity to better understand the nature of the construct that each subscale measures.

The intended purpose of the SEARS-T is to use it as a strength-based screening and assessment tool for evaluating the social emotional strengths, assets, resilience, and adaptive approaches to everyday challenges in life (Merrell et al., 2011). Items were rated using a 4-point rating format where raters are asked to estimate how true the items have been for this child during the past six months: never true, sometimes true, often true, or always/almost always true. Completed items are converted to a numerical format ranging from 0 (never) to 3 (always), with higher numbers reflecting higher levels of social emotional competence.

Regarding the validation of the instrument, the developers conducted a confirmatory factor analysis, a four-factor model (responsibility, social competence, self regulation and empathy) was forced. Model fit was analyzed using four goodness-of-fit indices: $\chi 2(2) = 9.78$, $p = .01$; CFI = .997; RMSEA = .068; SRMR = .010. CFI values are over .90 and RMSEA and SRMR values are less than .06 indicate that model fit is good (Hu & Bentler, 1999). Thus, the researchers concluded that the data fit the four-factor model well (Merrell, Cohn, & Tom, 2011).

The four subscales of SEARS-T demonstrated very strong internal consistency, with Cronbach alpha values of .95 for the Responsibility factor, .94 for the Social Competence factor, .95 for the Self Regulation factor, and .92 for the Empathy factor. The internal consistency of the total scale was also very high, with an obtained alpha of .98 (Merrell, Cohn, & Tom, 2011).

To test the convergent validity, correlations were calculated between the SEARS-T and the Social Skills Rating Scale (SSRS; Elliott & Gresham, 1991) and the peer relations scale of the School Social Behavior Scales (SSBS-2; Merrell, 2002). Correlations between the four subscales and the total score of SEARS-T and SSRS were statistically significant. The coefficients ranged from .39 to .82, with a median coefficient of .70. The correlation between the total scores of the two scales was .82. All correlations were positive and statistically significant ($p < .01$). The correlations between the four subscales and total score of SEARS-T and the Peer Relations subscale of the SSBS-2 were positive and statistically significant ($p < .001$). The coefficients ranged from .76 to .90, with a median coefficient of .80 (Merrell, Cohn, & Tom, 2011).

Although the SEARS-T has been validated for use with English-speaking persons, there was no version of this instrument designed for Chinese-speaking individuals at the time this dissertation study was proposed. Therefore, before conducting the main study, the original SEARS-T instrument was obtained from the Psychological Assessment Resources (PAR) company. It was translated into Chinese by the researcher and back translated into English by another translator. The revised version needed to be approved by PAR and pilot tested to investigate its reliability and validity before using it within the context of China.

Pilot Study. This pilot study was designed to test the validity and reliability of the instrument in the context of Chinese kindergartens, to be referred to as the SEARS-T-CH, since only the teacher's form has been translated. This form was designed to assess the classroom teachers' perspective of their students' social emotional competence. After gaining approval from PAR, the researcher translated it from English to Chinese and then another college English instructor, with a master's degree in English, translated it back into English without reviewing the original English version, in a process called back translation, which was approved by PAR.

After receiving approval from the IRB, the researcher sent a letter of introduction describing the research plan to the principals of two kindergartens in order to get approval for using their sites for the study. The principals agreed that the teachers in the schools would be allowed to participate in the pilot study, and then the researcher sent informed consent forms to the teachers.

Two of the teacher participants provided data for evaluating the interrater reliability and the other ten teachers provided data for evaluating convergent validity by assessing their students. The data were used in evaluating the internal consistency reliability.

For evaluation of interrater reliability, two teachers serving in the same class in one kindergarten completed the SEARS-T-CH to assess all the children (30 children) in the class. To measure the interrater reliability of SEARS-T-CH, Pearson correlation coefficients were calculated for the total score and each of the four subscale scores.

For evaluation of convergent validity, the other ten teachers completed the SEARS-T-CH and the Student-Teacher Relationship Scale (STRS; Pianta, 2001). The STRS is an instrument that is used to assess the student-teacher relationship. Pianta (2001) considers the STRS to have sufficient reliabilities of the subscales of

Closeness and Conflict. However, the Dependency scale does not result in scores with sufficient reliability for use. Zhang (2010) translated the STRS into Chinese and tested the validity and reliability of the Chinese version. The Chinese version of STRS includes 28 items and contains three subscales: Conflict, Closeness and Dependency. The Chinese version of STRS was frequently used in research studies in China and adequate reliability and validity was reported (Zhang, 2010; Zhang & Sun, 2011). The internal reliabilities of subscales Closeness and Conflict were tested and the values of Cronbach's alphas were .81, and .83, respectively (Zhang, 2010). However, because of the arguable reliability of Dependency, only the scores from the subscales of Conflict and Closeness were used to test the convergent validity of the SEARS-T in this study.

Each teacher participant, for evaluation of convergent validity, randomly selected three of their students for whom social emotional competencies were reported using the STRS and SEARS-T-CH. To measure convergent validity, Pearson correlation coefficients were calculated between the STRS and SEARS-T-CH subscale scores. The confidentiality of the students was protected. Only the researcher, the co-chairs and committee member had access to the gathered data. The names of the teacher and the student participants were coded. Each teacher and student in the study was given a study ID code. The researcher had one master file which linked names of teachers to their study ID code. This master file was stored in a separate location from the main data. Names of teachers and students did not appear in the data file itself. The data files were locked in a safe place. All the information in the study was reported in a way that did not disclose the teacher and student participant names.

It took 10-12 minutes to assess one student using the SEARS-T and about 5-10 minutes to assess one student using the STRS. Given that the two teachers who rated

all the students in their class (for the interrater reliability portion of the study) spent about five hours, their contribution was acknowledged by presenting them with an appropriate, IRB-approved, reward (the Chinese equivalent of a $50 gift card). The other ten teachers involved in the convergent validity study each completed ratings for three students, requiring about 60 minutes of their time; they were given gifts (the Chinese equivalent of a $5 gift card).

Null Hypotheses for the Main Study.

1. There is no difference, following the intervention, in average levels of responsibility between participants from the treatment group and control group after controlling gender and initial level of responsibility.

2. There is no difference, following the intervention, in average levels of self regulation between participants from the treatment group and control group after controlling gender and initial level of self regulation.

3. There is no difference, following the intervention, in average levels of social competence between participants from the treatment group and control group after controlling gender and initial level of social competence.

4. There is no difference, following the intervention, in average levels of empathy between participants from the treatment group and control group after controlling gender, and initial level of empathy.

Procedures for The Main Study.

The first step: After getting approval from University of the Pacific's IRB, a pilot study to test the validity and reliability of the translated version (SEARS-T-CH) was conducted.

The second step: After completing the pilot study, the researcher moved to the main study. The researcher sent a letter of introduction describing the research plan to

the principal of a kindergarten school in Jiading District in Shanghai in order to get approval to use this site for the study. The principal agreed to allow the teachers at this site to participate in the study, and then the researcher sent informed consent forms to parents of the children and the teacher participants. The parents of the children in main study signed the consent forms allowing their children to participate in this study. After getting the permission of the parents, the children were recruited in the study. The kindergarten was a private school that enrolls children at the age of five to six years without local household registration.

The goals of the study and the brief introduction of the procedures of this Orff-based musical curriculum were provided to the parents and the teachers so that they can understand the aims and the process of this intervention. Teachers needed to agree not to share lesson ideas from the intervention to avoid the "diffusion of treatment" threat to internal validity. To avoid the threat of "subject effect" by the parents or teachers who might tell the participants in both groups about the details of the intervention, the parents and teachers were informed not to reveal the hypothesis of the study to the children both in the treatment group and the control group (Schumacher & McMillan, 1993). In addition, the researcher told the teachers to give a trustworthy response and be honest in reflecting the level of the students' social emotional competence before the intervention began and immediately after the intervention concluded.

The third step: Two kindergarten classes in this school were selected. One class was randomly assigned the control group and the other one was assigned into the treatment group. Demographic information, such as gender, and status of household registration, were collected from the interviews with their classroom teachers and from documents kept by the school.

The fourth step: The researcher spent one day observing teachers, music sessions, and classrooms to pick two session time periods which were similar. In order to know the regular arrangement of teaching activities in this kindergarten school, the researcher interviewed one classroom teacher in each class (teacher S in the treatment group and teacher Z in the control group). The researcher asked the teachers to tell her about the plans they had regarding the curriculum and activities in the coming two months (when the researcher would be conducting the intervention). The purpose of the interview was to know the similarities and differences of the curriculum and activities between the control group and the treatment group. This helped the researcher to decide the time period in which to conduct the intervention for the treatment group. It also made it possible for the researcher to identify what the control group was doing while the treatment group was involved in Orff-based musical training.

In general, there was free play time for kindergarteners each day. The researcher replaced the free play time with the Orff-based music curriculum. Table 5 shows the regular routine of the kindergarten. After the discussion with the two classroom teachers from both the treatment group and control group, the researcher found that their arrangement of daily activities followed this plan. Thus, the intervention was conducted at 10:00 am to 10:30 am on Monday and Wednesday for eight weeks, replacing what had been the children's free play period. Children in the treatment group received this Orff-based curriculum twice a week.

Table 5. Regular Routine of Daily Activities.

Time	**Activity**
7:40-8:20 am	Arrival
8:20-9:10	Outdoor/sport activity
9:10-9:30	Snack time
9:30-10:00	Learning activity
10:00-10:30	Free play
10:30-11:05	Individualized learning
11:05-12:00	Lunch
12:00-14:10 pm	Sleep
14:10-15:00	Play
15:00-15:15	Snack time
15:15-15:45	Sport
15:45-16:10	Leaving

The fifth step: Before conducting the intervention, a pretest was carried out to collect data of the current level of social emotional competence of the children in both the control group and the treatment group. The classroom teachers, teacher S in the treatment group and teacher Z in the control group, reported the social emotional competence of the student participants using the SEARS-T-CH instrument.

The sixth step: A 16-session Orff-based music curriculum (eight lessons) in two parts aimed at improving social competence was designed as the intervention. The intervention was based on a curriculum developed by a teacher in China, and was named *Play Music from Head to Feet* (Chen, 2009). The researcher selected eight lessons from this curriculum that combined Orff-based music activities with social emotional training. The contents of social emotional training were adapted from the curriculum called *Activities for Building Character and Social-Emotional Learning* for grades pre K to K (Petersen, 2012). In addition, the researcher modified these eight lessons, from *Play Music from Head to Feet* (Chen, 2009), to emphasize the improvement of children's social emotional competence. The emphasis of each lesson was different, the researcher identified these differences by stars. The most

emphasized part (responsibility, social competence, self regulation, or empathy) was marked by five stars, and the least emphasized part (responsibility, social competence, self regulation, or empathy) was marked by one star. For example, the first lesson had two stars for responsibility, four stars for social competence, three stars for self regulation, and four stars for empathy. A chart of the teaching plan is attached in Appendix A.

Before conducting each session, the details for implementation were carefully designed to ensure consistency with the teaching plan, such as goals, processes, content and methods. Children in the treatment group received this Orff-based curriculum twice a week. Each lesson was completed in one week: the first class was spent teaching the new lesson and the second class of the week reviewed the previous session. The schedule of the intervention and the assessment are shown in Table 6. The researcher conducted the intervention for the treatment group, and the control group classes were conducted as originally planned, with their own classroom teachers. After informing the researcher of the scheduled activities, teacher Z provided documentation of what was done in the control group when the intervention was conducted in the treatment group. The usual “Free play” is an activity without specific learning objectives. Children can select play areas and friends freely in their classroom in this time period.

Table 6. Overview of Treatment Schedule.

Time	**Content**	
Week	Monday 10:00 am-10:30 am	Wednesday 10:00 am-10:30 am
1	Lesson 1	Review of lesson 1
2	Lesson 2	Review of lesson 2
3	Lesson 3	Review of lesson 3
4	Lesson 4	Review of lesson 4
5	Lesson 5	Review of lesson 5
6	Lesson 6	Review of lesson 6
7	Lesson 7	Review of lesson 7
8	Lesson 8	Review of lesson 8

The seventh step: The posttest was carried out immediately after the eight-week intervention was completed. The SEARS-T-CH was given to the kindergarteners' classroom teachers, teacher S in the treatment group and teacher Z in the control group, again to rate the student participants' social emotional competence by SEARS-T-CH. Data about children from both the control group and the treatment group were collected.

The eighth step: As detailed in the next chapter, multiple regressions, employing the pretest and posttest SEARS-T-CH subscale scores along with the control variables, were conducted and interpreted to determine whether the intervention was effective in improving the social emotional competence of the children.

The ninth step: Children in the control group also received the intervention within three months of the original study. This was to meet the expectations set forth within the informed consent form for parents which provided this information about the research procedures.

Data Analysis and Presentation

An initial descriptive statistical analysis of control variables, independent variable, and dependent variables was conducted. It included the means, standard deviations for continuous variables and the percentages within subgroups for categorical variables. To address the research questions, four sequential multiple regressions were conducted to examine whether the independent variable explains variance in the dependent variable beyond that of the pretest and demographic control variables.

Multiple regression is a general statistical technique used to analyze the relationship between a single dependent variable and several independent variables (Keith, 2006). More specifically, four sequential multiple regressions were used to determine the effect of the Orff musical training on social competence in children as indicated by the four SEARS-T-CH subscale scores: responsibility, social competence, self regulation, and empathy. Two blocks of predictors were involved in the test: the first one was the block of control variables and the respective covariate: gender (0=boy, 1=girl) and the pretest score for the subscale corresponding to the dependent variable. The second block represented the condition which was dummy coded (0=control, 1=treatment). The quantity and statistical significance of the additional proportion of variance in the outcome that could be explained by the intervention (Orff music curriculum) above that explained by entry level (pretest) and control variables was the focus.

Table 7 shows how the researcher planned to display the descriptive statistics for the categorical demographic information: the participants' gender. Chi-Square tests of associations were planned to determine whether the proportions of gender of each

subgroup was similar across the treatment and control conditions. Gender was dummy coded: 0=boy, 1=girl.

Table 7. Template for Descriptive Statistics of Gender

		Treatment(n=28)		Control(n=28)		χ^2	*p*
		N	Percentage	*N*	Percentage		
Gender	Female						
	Male						

Table 8 shows how the researcher planned to display the descriptive statistics for the continuous variables (SEARS-T-CH subscale scores) separately by condition. Independent samples t-tests were planned for determining whether any of the pretest or posttest scores differed between the treatment group and control group.

Table 8. Template for Descriptive Statistics by Subscales.

	Treatment group		Control group			
	M	*SD*	*M*	*SD*	*t*	*p*
1. Responsibility:						
Pretest						
Posttest						
2. Self regulation:						
Pretest						
Posttest						
3. Social competence:						
Pretest						
Posttest						
4. Empathy:						
Pretest						
Posttest						

p< .05

Table 9 was planned for presenting the intercorrelation matrix which reflected the relationships between control variable (gender), independent variable (condition), and the four subscales scores of social emotional competence, using pretest scores above and posttest scores below the diagonal. Correlations involving the SEARS-T-CH pretest scores (covariates) and those involving the SEARS-T-CH posttest scores (dependent variables) were to be displayed above and below the main diagonal, respectively.

Table 9. Template for Correlations between Four Subscales of Social Emotional Competence, Condition and Control Variables.

	1	2	3	4	5	6	7
1. Condition (1=treatment, 0=control)							
2. Responsibility							
3. Social competence							
4. Self regulation							
5. Empathy							
6. Gender (1=girl, 0=boy)							

$p < .05$

Table 10 was planned for presenting the results of a test to ensure the parallel slopes assumption (underlying the use of ANCOVA) had been met. The presence (or absence) of an interaction between the pretest and condition was used to decide whether the pretest could serve as a covariate, after controlling gender. The pretest scores of responsibility, social competence, self regulation and empathy were entered

into separate regressions, corresponding to the subscale serving as the dependent variable.

Table 10. Template for Preliminary Analysis of ANCOVA Assumption

				Change Statistics			
R	R^2	*Adjusted* R^2	ΔR^2	*F*	df_1	df_2	*p*
1. Pretest (either responsibility, Social competence, Self regulation, or Empathy)							
Gender							
Condition (1= treatment, 0=control)							
2. Crossproduct of pretest and condition							

$p < .05$

Addressing Research Question 1, Table 11 was planned for use in displaying the results of the sequential multiple regression, regressing the posttest score of responsibility on the two control variables, the pretest score and condition. The block first entered includes gender and the pretest score of responsibility. The next block entered was the condition (1=treatment group, 0=control group).

Table 11. Template for Effects of the Intervention on Responsibility

	Model	*B*	SE_B	*β*	*t*	*p*
1	(Constant)					
	Gender					
	Pretest					
2	(Constant)					
	Gender					
	Pretest					
	Condition					

Note: Condition (1=treatment, 0=control); Gender (1=girl, 0=boy).
$p < .05$

Addressing Research Questions 2, 3, and 4, Tables 12, 13, and 14 were similar to Table 11, except the SEARS-T-CH subscale focused on changes to social competence, self regulation, and empathy, respectively.

Table 12. Template for Effects of the Intervention on Social Competence.

	Model	*B*	SE_B	*β*	*t*	*p*
1	(Constant)					
	Gender					
	Pretest					
2	(Constant)					
	Gender					
	Pretest					
	Condition					

Note: Condition (1=treatment, 0=control); Gender (1=girl, 0=boy).
$p < .05$

Table 13. Template for Effects of the Intervention Self Regulation.

	Model	*B*	SE_B	*β*	*t*	*p*
1	(Constant)					
	Gender					
	Pretest					
2	(Constant)					
	Gender					
	Pretest					
	Condition					

Note: Condition (1=treatment, 0=control); Gender (1=girl, 0=boy).
$p < .05$

Table 14. Template for Effects of the Intervention on Empathy.

	Model	*B*	SE_B	*β*	*t*	*p*
1	(Constant)					
	Gender					
	Pretest					
2	(Constant)					
	Gender					
	Pretest					
	Condition					

Note: Condition (1=treatment, 0=control); Gender (1=girl, 0=boy).
$p < .05$

The significant relationship between the condition and at least one of the subscales of social competence, would indicate that the Orff-based musical curriculum had an impact on that indicator. The higher scores on these subscales would represent higher levels of social emotional competence and the treatment was coded 1 and control was coded 0. Therefore, a positive regression coefficient would imply the treatment was beneficial for improving the children's social emotional

competence. If no significant relationships between condition and all four of the social emotional competence indicators provided by the SEARS-T-CH were to be found, it would indicate that the Orff music curriculum was not associated with the social emotional competence of children in the kindergarten and, therefore, was not effective as a treatment for this purpose.

Assumptions

According to the conceptual framework, for children at the kindergarten level, the integrated curriculum was assumed to be an effective way to deliver knowledge and skills and improve children's development. This intervention was an integrated curriculum which combines music training and social emotional learning. Musical activities were considered as an effective vehicle to deliver knowledge and skills in other fields.

Completion of the questionnaire was based on the evaluation of the teachers who assess the students' social emotional competence in their class. The report of social emotional competence of the students rated by their classroom teachers was assumed to be trustworthy. The teachers were familiar with these student participants and could make rational and objective evaluations. It was assumed that the teachers were honest by revealing their true opinions in regards to their students' social emotional competency.

The valid interpretation of the analyses involving multiple regression was based on meeting underlying statistical assumptions. Linearity, independence of errors, homoscedasticity, normality of residuals and parallel slopes assumption underlying ANCOVA were assumed to be met, regarding the sequential multiple regression that was applied in the present study. First, linearity means that the dependent variable is a

linear function of the predictor variables. If this is not met, the regression coefficients for the independent variables are invalid (Keith, 2006).

Independence of errors refers to the assumption that data is collected independently from the population such that one student's scores are unrelated to those of other students. In other words, despite implementing the treatment at the class-level, we assume that the Orff training can exert effects autonomously on each student (and this is why the chosen statistical unit of analysis is at the student-, not the class-level).

The assumption of homoscedasticity refers to the variance of errors being generally consistent for all levels of an independent variable (Keith, 2006). Normality of residuals refers to residuals of a variable assumed to be normally distributed (Keith, 2006). In addition, the validity and the reliability of the instrument are important to address the accuracy of the data collection and analysis (Gall, Gall, & Borg, 2007). Thus, it is assumed that the SEARS-T-CH is sufficiently valid and reliable, using teachers' ratings of their students.

The parallel slopes assumption underlying ANCOVA refers that there is no interaction between the independent variable and the covariate. The presence (or absence) of an interaction between the pretest and condition can be used to decide whether the pretest can serve as a covariate.

Limitations

First, student participants may respond differently because of a change in routine, and generalization may be limited to situations that involve similar novelty or disruption. The researcher, not the classroom teachers, administered the intervention. Although the intervention was conducted in the participants' own classroom, the presence of the experimenter along with the new curriculum created a change of the

routine that may pose a threat. Therefore, the possibility of experimenter effect may be a threat to the internal validity of the study.

Second, the two classes were selected from one site in Jiading District, a suburban area of Shanghai. Although migrant children in this site are members of the targeted population, they may not have all typical characteristics of migrant children in suburban schools. Further, although the number of children recruited in the study met the requirement of the sample size, it was just one more than the minimum level. Therefore, these two points may limit the generalizability of the findings, diminishing the study's population external validity.

Third, the non-random assignment of students into the treatment and comparison groups was a source of concern. It may be a threat to internal validity, because students in each class had been assigned before the study (McMillan & Schumacher, 2010). However, the researcher employed the statistical technique to compensate for the potential "selection" threat to this internal validity. The pretest scores of social emotional competence (responsibility, social competence, self regulation and empathy) were treated as covariates as so to diminish the mean differences of the initial levels between the treatment group and the control group. Moreover, confirmed with the school administrative staff, the children were initially placed into the kindergarten classes in essentially a random way. Classroom teachers selected the students in their own class by drawing lots. In addition, preliminary analyzed using the pretest score was used to gauge whether a selection threat to internal validity was present.

Finally, young children's social emotional competence can be influenced by their parents' and teachers' social emotional competence. Further, students in different classes have different teachers and different classmates. Based on the literature, peer relationships and children-adult relationships are important influential factors of

children's social emotional competence. In the current study, the researcher did not treat the parents' social emotional competence, teachers' social emotional competence, peer relationships, and children-adult relationship as control variables.

Summary

This inquiry used a quasi-experimental design to study the effects of using Orff-based musical curriculum on the social emotional competence of migrant kindergartners in a suburban school in Shanghai, China. The measuring instrument, procedure, data collection and analysis plans were described. Chapter Four discusses the results from the data analysis and Chapter Five discusses the findings, draws implications for practice, and offers suggestions for further research.

Chapter 4: Results

This current study examines the effect of an Orff-based curriculum on social emotional competence of migrant children aged from five to six years in a school with kindergarten classes in Jiading District in Shanghai. The social emotional competence of the children in this study is operationally defined as consisting of four aspects: responsibility, social competence, self regulation and empathy. This chapter begins by presenting results from the pilot study. Then the results related to a preliminary examination of the data are noted, including tests of statistical assumptions. The chapter concludes by presenting findings related to the main research questions regarding the effects of the intervention on the four indicators of social emotional competence.

Results of the Pilot Study

The purpose of the pilot study was to test the interrater reliability, internal reliability and the convergent validity of the instrument Chinese version of Social Emotional Assets and Resilience Scales-Teacher Form (SEARS-T-CH). To test the interrater reliability, two teachers in one class of the kindergarten grade in a school in Minhang District in Shanghai were recruited. They each independently rated 30 students in their shared class and the scores for each of the four scales were correlated. The pilot study results show that the interrater reliability is sound. The responsibility scale ratings of the two teachers were highly correlated, with r=.894, p < .001. Similarly, the correlations for self regulation (r=.843), social competence (r=.914), and empathy (r=.904) were all highly correlated and significant (p < .001).

To test the convergent validity, 10 teacher participants were recruited to assess 30 kindergarteners' social emotional competence and student-teacher relationship by using the SEARS-T-CH and STRS instruments, respectively. The social emotional competence score, based on the total score across the four SEARTS-T-CH subscales was significantly correlated with Closeness, r= .435. The scoring of SEARS-T is rated on a four-point scale. The higher scores indicate higher levels of social emotional competence. Because the focus of SEARS-T is on positive aspects of the participants' social emotional competence, its positive correlations between scores of SEARS-T with values of closeness and its negative correlations between scores of SEARS-T with values of conflict are reasonable. As shown in Table 15, the score of self regulation subscale was not significantly correlated with the score of closeness. The score of responsibility, self regulation and empathy subscale was negatively correlated with the score of closeness but not significantly. The values of correlation indicate that the scores of the subscale of SEARS-T-CH (responsibility, social competence, and empathy) was significantly correlated with Closeness respectively. However, the social competence subscale is positively correlated with conflict which is not consistent with the prediction. Therefore, although some of the subscale's convergent validities are not quite well, the validity of the entire instrument is sufficient enough to be used in the main study.

Table 15. Correlations between Social Emotional Competence and Student-Teacher Relationship

	Conflict	Closeness
Responsibility	-.096	.470**
Social competence	.027	.425*
Self regulation	-.011	.314
Empathy	-.003	.375*
SEARS Total	-.020	.435*

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

To test the internal consistency reliability, the teacher-reported assessments of 60 kindergarteners' social emotional competence were used. The Cronbach's Alpha of the subscales of Responsibility, Social competence, Self regulation, and Empathy were .900, .933, .930, and .895, respectively.

In summary, the pilot study evidence suggested that the interrater reliability and internal consistency reliability of the adapted SEARS-T-CH scale were sufficient. Also, the correlation between the SEARS-T-CH and the STRS provides some preliminary evidence regarding the convergent validity of the SEARS-T-CH. Therefore, the SEARS-T-CH was used in the main study.

Preliminary Data Assessment

The four research questions were designed to explore the effects of participating in the Orff-based musical curriculum on children's responsibility, social competence, self regulation, and empathy. Each posttest score of responsibility, social competence, self regulation, and empathy was the dependent variable for each research question. The independent variable for each research question was the condition (i.e., whether the children participate in the experiment or not). One demographic variable, gender, was taken as control variables. There was a covariate for each research question;

namely, the pretest score of responsibility (RQ1), self regulation (RQ2), social competence (RQ3) and empathy (RQ4).

A quasi-experimental design was used to address the four research questions. The treatment group and the control group were comprised of two intact (previously formed) classes. Students could not be randomly assigned to the two conditions. Therefore, the internal validity threat known as "selection" may result if there were pre-existing differences, such as the social-economic status or the social emotional competence, between the two groups (Gall, Gall, and Borg, 2007). To gauge whether gender was associated with condition, Chi-square Tests of Association were used. Similarly, to compare the groups in terms of their initial social emotional competency, independent-samples t-tests were employed comparing the four pretest scores. Further, the statistical analysis also used each pretest score of responsibility, self regulation, social competence and empathy as a covariate to help reduce pre-existing differences between the two groups.

Gender. There were 28 children in each group, with 15 girls (53.6%) and 13 boys (46.4%) in the treatment group and 16 girls (57.1%) and 12 boys (42.9%) in the control group. From Table 16, the results of Chi-square test ($\chi^2 = 0.072$, $p > 0.05$) indicated that there was insufficient evidence to suggest that the treatment group and the control group differ in terms of their gender distributions. All student participants in each group were migrant children without local household registration.

Table 16. Descriptive Statistics of Gender.

		Treatment(n=28)		Control(n=28)		χ^2	*p*
		N	Percentage	*N*	Percentage		
Gender	Female	15	53.6%	16	57.1%	0.072	.204
	Male	13	46.4%	12	42.9%		

Descriptive analysis of variables. Table 17 shows the means and the standard deviations of responsibility, self regulation, social competence and empathy of the pretest and posttest scores for each group. According to the results of the independent-samples t-tests, using alpha=.05, there was evidence to suggest that the responsibility posttest scores differ, on average, between the control group and the treatment, $t(54)= 2.080$, $p= .04$. There was evidence to suggest that the social competence pretest scores differ, on average, between the control group and the treatment, $t(54)= -2.065$, $p= .04$. There was evidence to suggest that the self regulation pretest scores differ, on average, between the control group and the treatment, $t(54)= -3.346$, $p= .001$.There was evidence to suggest that the empathy pretest scores differ, on average, between the control group and the treatment, $t(54)= -2.552$, $p= .01$.

Table 17. Descriptive Statistics by Subscales by Condition.

		Treatment (*n*=28)		Control (*n*=28)		*t*	*p*
		M	*SD*	*M*	*SD*		
Responsibility	Pretest	2.13	.47	2.03	.65	.70	.48
	Posttest	2.52	.33	2.23	.68	2.08	.04
Social competence	Pretest	1.63	.39	1.92	.65	-2.07	.04
	Posttest	2.15	.38	2.17	.60	-.11	.91
Self regulation	Pretest	1.39	.31	1.81	.57	-3.35	.001
	Posttest	1.99	.33	2.05	.66	-.42	.68
Empathy	Pretest	1.66	.75	2.04	.73	-2.55	.01
	Posttest	2.04	.565	2.16	.72	-.81	.42

Figure 2 shows the changes of mean scores of responsibility between control and treatment groups before and after the intervention. Figure 3 shows the changes of mean scores of social competence between control and treatment groups before and after the intervention. Figure 4 shows the changes of mean score of self regulation between control and treatment groups before and after the intervention. Figure 5 shows the changes of mean scores of empathy between control and treatment groups before and after the intervention.

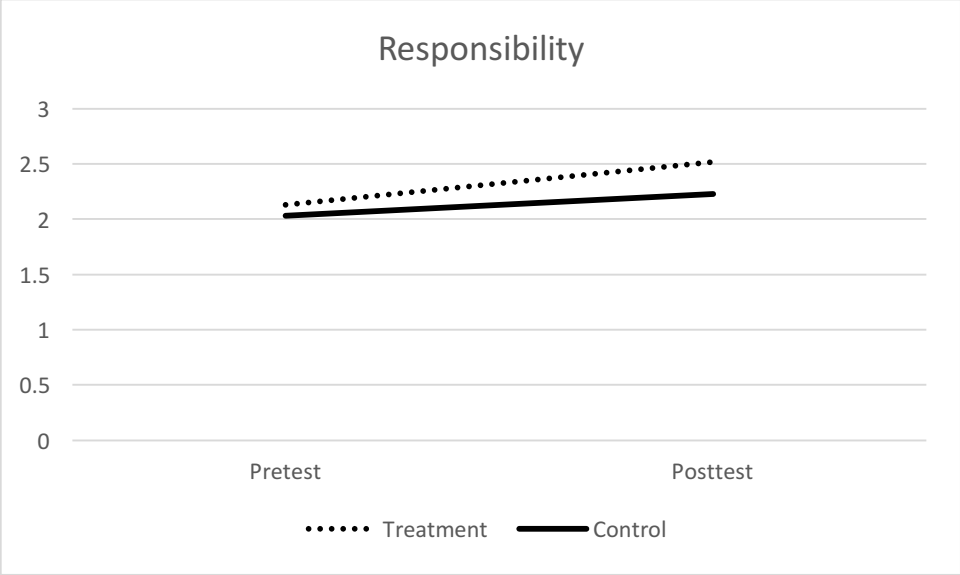

Figure 2. Mean Scores of Pretest and Posttest of Responsibility between Control and Treatment Groups

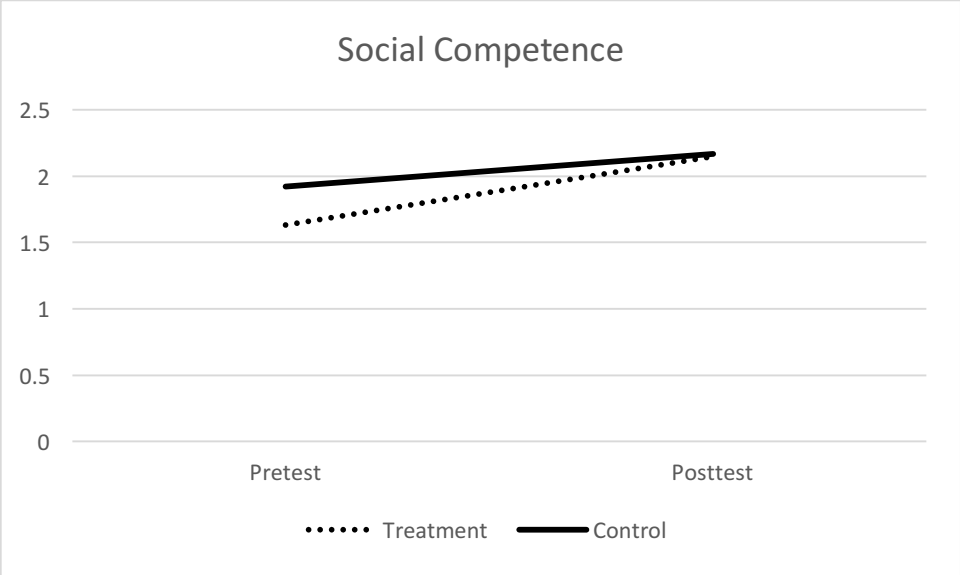

Figure 3. Mean Scores of Pretest and Posttest of Social Competence between Control and Treatment Groups

Figure 4. Mean Scores of Pretest and Posttest of Self Regulation between Control and Treatment Groups

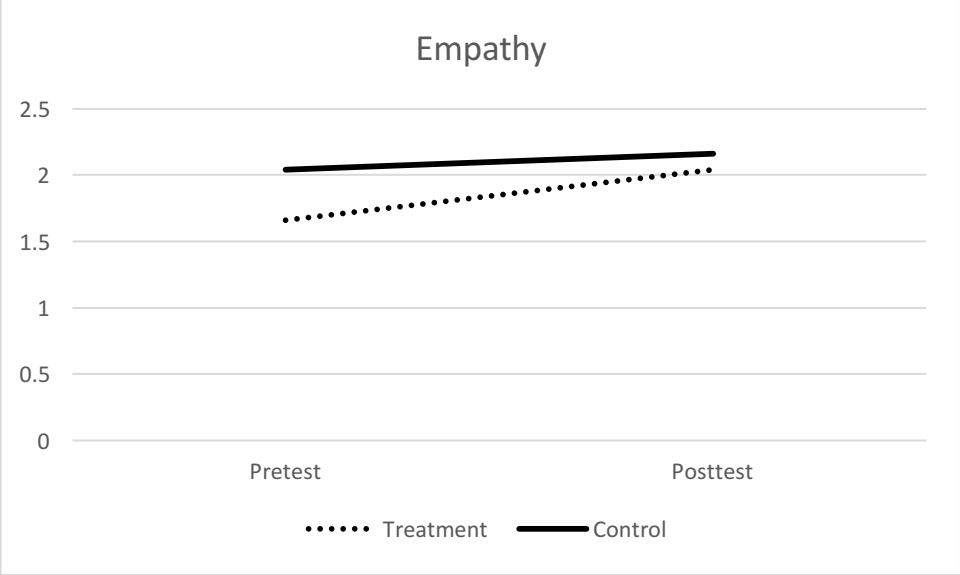

Figure 5. Mean Scores of Pretest and Posttest of Empathy between Control and Treatment Groups

In summary, based on the Chi-square there was no evidence for gender, but based on t-test analyses, there was evidence that a selection threat exists; differences that were later found in the main analyses were not due to gender differences between the two groups. The evidence showed that there were differences upon social competence,

self regulation and empathy between the two groups existing prior to the intervention. The means showed the children in the treatment group are rated to be lower levels of social competence, self regulation and empathy than children in the control groups.

Table 18 provides the correlations among the main variables, using pretest scores above and posttest scores below the diagonal. As would be expected from the t-test results, as shown in the correlations matrix, the condition and responsibility posttest scores were significantly correlated (p <0.05, two-tailed). Also, the four indicators of social emotional competence were highly correlated before and after the intervention.

Table 18. Correlations between Social Emotional Competence, Condition and Control Variable (n=56).

	1	2	3	4	5	6
1. Condition		.095	-.271*	-.414**	-.328*	-.036
2. Responsi-bility	.272*		.726**	.735**	.801**	.478**
3. Social competence	-.015	.813**		.900**	.822**	.323*
4. Self regulation	-.057	.845**	.915**		.881**	.337*
5. Empathy	-.109	.777**	.884**	.869**		.421**
6. Gender	-.036	.384**	.267*	.309*	.396**	

* p < 0.05 (two-tailed) ** p < 0.01 (two-tailed)

Note:

1. Condition (1=treatment, 0=control); Gender (1=girl, 0=boy).
2. Correlations involving the four indicators of social emotional competence above the diagonal use pretest scores; those below the diagonal use posttest scores.

Table 19 provides the correlations among correlations between each matched pretest and posttest of social emotional competence, condition and control variable. As would be expected from the t-test results, as shown in the correlations matrix,

correlations between each matched pretest and posttest of social emotional competence were significantly correlated ($p < 0.05$, two-tailed). Also, the four indicators of social emotional competence among correlations of pretest and posttest scores were highly correlated.

Table 19. Correlations between Each Pretest and Posttest of Social Emotional Competence, Condition and Control Variable (n=56).

	1.Condition	2. Posttest responsibility	3. Posttest Social competence	4. Posttest Self regulation	5. Posttest Empathy	6. Gender
1. Condition	1	.272*	-.015	-.057	-.109	-.036
2. Pretest Responsibility	.095	.772**	.651**	.713**	.675**	.478**
3. Pretest Social competence	-.271*	.534**	.770**	.760**	.719**	.323*
4. Pretest Self regulation	-.414**	.447**	.626**	.699**	.658**	.337*
5. Pretest Empathy	-.328*	.501**	.590**	.639**	.652**	.421**
6. Gender	-.036	.384**	.267*	.309*	.396**	1

* $p < 0.05$ (two-tailed) ** $p < 0.01$ (two-tailed)
Note:
1. Condition (1=treatment, 0=control); Gender (1=girl, 0=boy).

Assumptions.

Four assumptions underlie the use of linear regression: linearity, independence of error, homoscedasticity and normality of residuals. The purpose of doing regression diagnostics is to ensure the multiple regression analyses are reasonable and valid (Keith, 2006). Assumptions were tested and the presence of influential data points was checked (see Appendix B). No excessive multicollinearity was revealed. The residuals were normally distributed. The loess lines were relatively flat and thus did

not suggest a departure from linearity. The results also showed that there were no violations of homoscedasticity, because the largest value of the variance of unstandardized residual was less than ten times the lowest. Checks for large residuals, leverage and influence were made and the results showed there were no cases with large standardized residuals in absolute value. The results also indicated that the ANCOVA assumptions regarding parallel slopes were met, as shown in the Appendix B. Therefore, all cases remained in the dataset and were used in the main analyses.

Main Analysis

Research question one: Responsibility. Research question one (RQ1) asked whether participation in an Orff based musical curriculum improved migrant kindergarteners' responsibility or not after controlling for gender and initial levels of responsibility. A sequential multiple regression was conducted. In Model 1, the control variable (gender) was entered along with the corresponding pretest (i.e., that measures initial levels of responsibility). In Model 2, the condition (treatment, coded 1; control, coded 0) was added to the Model 1 variables. As shown in Table 20, in Model 1, the control variable (gender) was entered along with the corresponding pretest (i.e., that measures initial levels of responsibility); together, the two variables explain almost 59.7% of the variance in posttest responsibility scores (see Table 20). In Model 2, the condition (treatment, coded 1; control, coded 0) was added to the Model 1 variables. Model 1 was statistically significant and the addition of knowing whether the student participated in the treatment or not (condition) accounted for an additional 4.1% of the variance in posttest scores of responsibility, ΔR^2 =.041, $F(1,52)$ =5.862, p= .019.

Table 20. Summary of the Models Predicting Posttest Scores of Responsibility.

			Adjusted		*Change Statistics*			
Model	*R*	R^2	R^2	ΔR^2	*F*	df_1	df_2	*p*
1	.772a	.597	.581	.597	39.204	2	53	.000
2	.798b	.638	.617	.041	5.862	1	52	.019

Notes: Model 1: (Constant), Responsibility Pretest, Gender
Model 2: Model 1 Predictors above plus Condition (1=Treatment, 0=Control)

Table 21 shows the regression coefficients of the variables in the models. For "condition," the coefficient was significant t (52)=2.421, p=.019 with b=.222 and β=.204. The positive coefficients were in the predicted direction, in that program participation, on average, is associated with higher posttest responsibility scores; therefore, there was evidence to suggest that the treatment improved responsibility, after controlling for gender, and initial levels of self regulation that the teachers reported for their students. Based on Cohen's f^2, the effect size was .113 which was considered to be more than a small (.02) but less than a medium (.15) effect size (Cohen, 1988).

Table 21. Effects of the Intervention on Responsibility.

	Model	*B*	SE_B	β	*t*	*p*
1	(Constant)	.828	.185		4.467	.000
	Gender	.022	.109	.020	.201	.841
	Pretest	.739	.096	.763	7.682	.000
2	(Constant)	.764	.179		4.259	.000
	Gender	.045	.104	.041	.435	.666
	Pretest	.710	.093	.733	7.650	.000
	Condition	.222	.092	.204	2.421	.019

Note: Condition (1=treatment, 0=control); Gender (1=girl, 0=boy).

Research Question Two: Social Competence. Research question two (RQ2) asked whether participation in an Orff-based musical curriculum improved migrant kindergarteners' social competence or not after controlling for gender and initial levels of social competence. A sequential multiple regression was conducted. In Model 1, the control variable (gender) was entered along with the corresponding pretest (i.e., that measures initial levels of social competence). In Model 2, the condition (treatment, coded 1; control, coded 0) was added to the Model 1 variables. As shown in Table 22, in Model 1, the control variable (gender) was entered along with the corresponding pretest (i.e., that measures initial levels of social competence); together, the two variables explain almost 59.3% of the variance in posttest social competence scores (see Table 22). In Model 2, the condition (treatment, coded 1; control, coded 0) was added to the Model 1 variables. Model 1 was statistically significant and the addition of knowing whether the student participated in the treatment or not (condition) accounted for an additional 4% of the variance in posttest scores of social competence, $\Delta R^2 = .040$, $F(1,52) = 5.658$, $p = .021$.

Table 22. Summary of the Models Predicting Posttest Scores of Social Competence.

			Adjusted		*Change Statistics*			
Model	*R*	R^2	R^2	ΔR^2	*F*	df_1	df_2	*p*
1	.770a	.593	.577	.593	38.582	2	53	.000
2	.795b	.633	.612	.040	5.658	1	52	.021

Notes: Model 1: (Constant), Social Competence Pretest, Gender
Model 2: Model 1 Predictors above plus Condition (1=Treatment, 0=Control)

Table 23 shows the regression coefficients of the variables in the models. For "condition," the coefficient was significant t (52) =2.379, p=.021 with b=.225 and β=.208. The positive coefficients were in the predicted direction, in that program participation, on average, is associated with higher posttest social competence scores; therefore, there was evidence to suggest that the treatment improved social competence, after controlling for gender, and initial levels of social competence that the teachers reported for their students. Based on Cohen's f^2, the effect size was .109 which was considered to be more than a (.02) but less than a medium (.15) effect size (Cohen, 1988).

Table 23. Effects of the Intervention on Social Competence.

	Model	*B*	SE_B	β	*t*	*p*
1	(Constant)	.809	.161		5.027	.000
	Gender	.023	.101	.021	.228	.820
	Pretest	.755	.092	.763	8.238	.000
2	(Constant)	.599	.178		3.364	.001
	Gender	.010	.097	.009	.103	.918
	Pretest	.814	.091	.823	8.915	.000
	Condition	.225	.094	.208	2.379	.021

Note: Condition (1=treatment, 0=control); Gender (1=girl, 0=boy)

Research Question Three: Self Regulation. Research question three (RQ3) asked whether participation in an Orff based musical curriculum improved migrant kindergarteners' self regulation or not after controlling for gender and initial levels of self regulation. A sequential multiple regression was conducted. In Model 1, the control variable (gender) was entered along with the corresponding pretest (i.e., that measures initial levels of self regulation); together, the two variables explain almost 49.5% of the variance in posttest self regulation scores (see Table 24). In Model 2,

the condition (treatment, coded 1; control, coded 0) was added to the Model 1 variables. Model 1 was statistically significant and the addition of knowing whether the student participated in the treatment or not (condition) accounted for an additional 6.2% of the variance in posttest scores of self regulation, ΔR^2 =.062, F (1,52) =7.210, p= .01.

Table 24. Summary of the Models Predicting Posttest Scores of Self Regulation.

			Adjusted		*Change Statistics*			
Model	*R*	R^2	R^2	ΔR^2	*F*	df_1	df_2	*p*
1	.703a	.495	.476	.495	25.958	2	53	.000
2	.746b	.556	.531	.062	7.210	1	52	.010

Notes: Model 1: (Constant), Self Regulation Pretest, Gender
Model 2: Model 1 Predictors above plus Condition
(1=Treatment, 0=Control)

Table 25 shows the regression coefficients of the variables in the models. For "condition," the coefficient was significant t (52) =2.685, p=.010 with b=.282 and β=.275. The positive coefficients were in the predicted direction, in that program participation, on average, is associated with higher posttest self regulation scores; therefore, there was evidence to suggest that the treatment improved self regulation, after controlling for gender, and initial levels of self regulation that the teachers reported for their students. Based on Cohen's f^2, the effect size was .140 which was considered to be more than a small (.02) but less than a medium (.15) effect size (Cohen, 1988).

Table 25. Effects of the Intervention on Self Regulation.

	Model	*B*	SE_B	*β*	*t*	*p*
1	(Constant)	.848	.171		4.970	.000
	Gender	.085	.107	.082	.795	.430
	Pretest	.700	.108	.671	6.474	.000
2	(Constant)	.517	.203		2.547	.014
	Gender	.052	.102	.050	.509	.613
	Pretest	.830	.113	.796	7.334	.000
	Condition	.282	.105	.275	2.685	.010

Note: Condition (1=treatment, 0=control); Gender (1=girl, 0=boy).

Research Question Four: Empathy. Research question four (RQ4) asked whether participation in an Orff-based musical curriculum improved migrant kindergarteners' empathy or not after controlling for gender and initial levels of empathy. A sequential multiple regression was conducted. A sequential multiple regression was conducted. In Model 1, the control variable (gender) was entered along with the corresponding pretest (i.e., that measures initial levels of empathy); together, the two variables explain almost 44.3% of the variance in posttest empathy scores (see Table 26). In Model 2, the condition (treatment, coded 1; control, coded 0) was added to the Model 1 variables. Model 1 was statistically significant but Model 2 was not statistically significant. The addition of knowing whether the student participated in the treatment or not (condition) could be accounted for in posttest scores of empathy, ΔR^2 =.009, $F(1,52)$ =.863, p= .357.

Table 26. Summary of the Models Predicting Posttest Scores of Empathy.

			Adjusted		*Change Statistics*			
Model	*R*	R^2	R^2	ΔR^2	*F*	df_1	df_2	*p*
1	.665a	.443	.422	.443	21.063	2	53	.000
2	.672b	.452	.420	.009	.863	1	52	.357

Notes: Model 1: (Constant), Empathy Pretest, Gender
Model 2: Model 1 Predictors above plus Condition (1=Treatment, 0=Control)

Table 27 displays the regression coefficients of the variables in the models. For "condition," the coefficient was not significant t (52) =.929, p= .357 with b=.116 and β=.102. The positive coefficients were in the predicted direction, in that program participation, on average, was associated with higher posttest empathy scores; However, there was not sufficient evidence to suggest that the treatment improves empathy, after controlling the gender and initial levels of empathy that the teachers reported for their students. Based on Cohen's f^2, the effect size was .016 which was not considered to be even a small (.02) effect size (Cohen, 1988).

Table 27. Effects of the Intervention on Empathy.

	Model	*B*	SE_B	β	*t*	*p*
1	(Constant)	.915	.199		4.601	.000
	Gender	.169	.130	.147	1.299	.200
	Pretest	.590	.113	.590	5.220	.000
2	(Constant)	.794	.238		3.331	.002
	Gender	.154	.131	.134	1.177	.245
	Pretest	.628	.121	.629	5.213	.000
	Condition	.116	.125	.102	.929	.357

Note: Condition (1=treatment, 0=control); Gender (1=girl, 0=boy).

Summary

This chapter presented results from the pilot study. Then the results related to a preliminary examination of the data were noted, including tests of statistical assumptions. In the preliminary analyses, there were no unusual cases identified nor were any violations detected of the statistical assumptions for utilizing multiple linear regression. Four multiple regressions were conducted and the results show that the intervention had positive effects on students' social emotional competency (specifically participants' responsibility, social competence and self regulation) after controlling for gender along with their initial levels of responsibility, social competence and self regulation, respectively. A discussion of the results, their implications, and suggestions for further research are presented in the next chapter.

Chapter 5: Discussion

This chapter begins with a discussion of the results in relation to prior research findings, including studies about the influence of musical activity on social competence. Implications for practice are noted, including the role of Curriculum and Instruction administrators who oversee development of the whole child, as well as suggestions for early childhood educators. Suggestions for further research are also identified.

Discussion of Results

Research question one (RQ1) examines the effect of the Orff-based musical curriculum on the children's responsibility. The result shows that there is sufficient evidence to support the hypothesis that this treatment improves the children's taking of responsibility, after controlling for their initial levels of responsibility and gender.

First, the activities design in the Orff musical curriculum may help children to enhance their levels of responsibilities. The Orff-based musical curriculum in this current study is a synthesis of Orff musical activities and social emotional learning. The arrangement of the curriculum borrows the ideas from the *Activities for Building Character and Social-Emotional Learning* (Petersen, 2012) for grades pre kindergarten and kindergarten, which is one of the curricula of *Safe & Caring School* (SCS) (Petersen, 2012) and *Play Music from Head to Feet* (Chen, 2009). The intervention in this study used Orff-based musical activities as a vehicle to deliver the training to improve social emotional competence. Take the movement activity "Front seat/back seat driver" for example, students who took roles of the captains should take

care of the safety of the airplanes and the passengers with scarfs on their eyes. In this process, students learn about leadership and the responsibility of taking care of others.

Previous research studies focusing on the relationship between musical activities and responsibility are few. However, the finding in the current study, related to this research question, is consistent with one prior research study which focuses on the effects of musical activities on improving children's character building.

Lee (2016) found that integrating Orff-based musical curriculum with character-building curriculum can improve kindergarteners' abilities of "caring for others"; "valuing courage"; "cooperation"; "respect"; "responsibility"; and "honesty". Responsibility is considered to be one dimension of character development. Lee (2016) uses Orff Schulwerk in the intervention program to improve the children's ability of take responsibility, which is the same method used in the current study. The same strategy to address the goal of improving children's responsibility is to invite children to take care of the Orff instruments and play them properly. All the children in this current study are migrant children and this is the first time that they knew and learned to play the Orff instruments and percussion instruments. The researcher spent time in four lessons to explain to the children the playing methods and storage instructions. In addition, the researcher asked every student to take turns caring for the instruments in pairs.

As for methodology part, this current study employs a quasi-experiment study design and invited the children's teachers to report their levels of responsibility by using the subscale of the instrument of SEARS-T-CH. Lee (2016) employed the design of qualitative study, and data regarding children's responsibility was derived from the interviews of the classroom teachers who observed the whole process of the program. Both of the two studies are conducted in the students' classrooms. Although

the methodologies used in these two studies are different, the data are all from reports of their classroom teachers' views of the students.

Rauduvaite, & Lasauskiene, (2015) propose that musical activities can increase the leadership expression of kindergarteners. In this current study, Orff-based musical curriculum emphasizes the goals of improving the participants' emotional recognition, emotional expressiveness, cooperative tasks, self control, emotional regulation, interpersonal communication skills and taking responsibility. In the intervention, another part that related to improving participants' responsibility is when the children take their turns at being assistants of the teacher. Every child has one chance to be an assistant, such as demonstrating movement activities with the researcher. Being assistants may be another way to help children to build their confidence and cultivate their sense of responsibility.

In summary, there is significant evidence to support the hypothesis of research question one that the intervention of Orff-based curriculum improves the children's taking of responsibility, after controlling for their initial levels of responsibility and gender. The main reason may lie in the structuring and the design of the intervention because the design of activities specifically focused on improving responsibility.

Research question two (RQ2) examines the effect of the Orff-based musical curriculum on the children's social competence. The result shows that there is sufficient evidence to support the hypothesis that the treatment improves the children's social competence, after controlling for their initial levels of social competence and gender.

This result related to research question two is consistent with many previous studies that indicate that music-based interventions have positive effects on both special populations (Eren, 2015; Schwartzberg, & Silverman, 2013; Shi, Lin, & Xie,

2016) and the general population (Perez-Aldeguer, 2013; Ritblatt, Longstreth, Hokoda, Cannon, & Weston, 2013; Schellenberg, Corrigall, Dys, & Malti, 2015; Yun & Kim, 2013). The current study can be added to the body of evidence that Orff-based musical programs play a positive role in the improvement of kindergarteners' social competence.

The consistency between the current and previous research can be better understood by considering both music-based activities and the integrated curriculum design.

First, many studies that find improvement from training on children's social skills usually employ music-based interventions in the studies (Perez-Aldeguer, 2013; Ritblatt, Longstreth, Hokoda, Cannon, & Weston, 2013; Schellenberg, Corrigall, Dys, & Malti, 2015). It is known that music focuses not only on the sonic issues, such as pitch, melody and rhythm, but also has a great influence on individuals' psychological functioning. Examples include affection, mood, adaptive behaviors and so on (Miranda & Claes, 2008).

Yun & Kim (2013) propose that the Orff approach has positive effects on elementary children's social skills from low-income families in South Korea. Children in this previous study were from low-income families who had challenges and problems in livelihood. In the current study, the student participants were migrant children who were considered to have higher risks in their social development and mental wellness (Chen, Wang, & Wang, 2009; Hu, Lu, & Huang, 2014; Wong, Chang, & He, 2009). Therefore, the both student participants in the two studies were from disadvantaged groups.

In addition, this Orff-based musical curriculum is a teaching program with eight lessons addressing the goals to improve migrant children's social competence. This

musical experience can be essential in helping children establish and maintain interpersonal relationships, because Orff Schulwerk is a very functional method to encourage children to join into group activity. Therefore, the positive effects of the musical interventions may be more apparent on the migrant children participants involved.

Second, an integrated curriculum is considered to be an effective teaching method to improve children's development in childhood. Much evidence shows that in the integrated curriculum classes, students are more involved in learning, with better self-motivation and fewer behavior problems than those in traditional classes (Bialach & Dunphy, 2005; Bolak, Flowers, Mertens, & Mulhall, 2005; Vars, 2001; Yu-Liang, Huan-Hung, 2015). In early childhood education, play is considered an essential component and the base of integrated curricula (Spodek, Saracho, & Davis, 1991). Therefore, the findings of the current study are consistent with ideas of integrated curriculum that the integration of musical activities and social emotional training is more effective in achieving teaching goals.

For children in the early childhood, musical activities can be considered as a very effective way to deliver skills and knowledge in other fields. In the intervention design, the goal of improving children's social skills was addressed, most of which are Orff-based lessons teaching children to invite, share, cooperate, discuss and talk with courteous words.

In summary, the finding in this current study related to research question two (RQ2) is consistent with many previous studies. This consistency may lie in functions of musical activities in early childhood education and the design of integrated curriculum of the intervention.

Research question three (RQ3) examines the effect of the Orff-based musical curriculum on the migrant children's self regulation. The result shows that the treatment improves the children's self regulation, after controlling for their initial levels of self regulation and gender. Kindergarteners in the treatment group show better self regulation skills, after the intervention, than the demographically-similar group of kindergarteners in the control group.

There is a large body of evidence that indicates the encouraging effects of music and musical activities on self regulation. The finding in the current study, related to the third research question, is consistent with many prior research studies which focus on the effects of musical activities on self regulation (Kelly, 2012; Kimberly, 2016; Skånland, 2013; Winsler, Ducenne, & Koury, 2011). The influence of musical activities on participants' self regulation may be summarized along two dimensions: behavioral self regulation (Winsler, Ducenne, & Koury, 2011) and emotional self regulation (Saarikallio, 2011; Southam-Gerow & Kendall, 2002; Uhlig, Scherder, & Jansen, 2016). Winsler, Ducenne and Koury (2011) explain the reason that musical activities have positive effects on behavioral self regulation. Children who are involved in musical programs are likely to practice music and movement frequently so as to modulate their behaviors. For example, while children participate in movement training, they usually follow the rhythm and the tempo of the music and children can feel the emotions of different musical types in this process. This feature of musical programs can be related to helping children practice their skills to regulate their behaviors. Furthermore, Southam-Gerow and Kendall (2002) propose that participation in musical activities also provides experiences for children to enhance their abilities to recognize their emotional state and regulate their emotions.

In the current study, the design of the Orff-based curriculum provides the emotional regulation training for the children. Different types of music are provided to the participants in the study and they are trained to recognize emotions and to exhibit proper reactive behaviors that correspond to the musical contexts the curriculum design provides. This may be the reason that this Orff-based curriculum has a role in improving the participants' self regulation. In the current study, the combination of musical activities and social emotional learning may better explain why participants' self regulation was impacted by the intervention. It is recognized that music and musical activities have psychological functions as well as aesthetic functions (Miranda & Claes, 2008). As the children listen to music and engage in musical activities, the participants perceive the psychological and emotional elements, interpret the composers' thoughts and recognize their own emotional reactions (Thompson, Russo, & Quinto, 2008; Tsay, 2013; Zentner, Grandjean, & Scherer, 2008). Therefore, music is an effective vehicle to deliver the knowledge and skills in training emotion and behavior regulation.

Based on the conceptual framework of integrated curriculum, educators advocate that musical activity is a great source or media to deliver knowledge of other domains, such as language, math, and exercises. Musical activities are widely applied in kindergarten' classrooms. Music education provides not only the opportunities to learn musical knowledge and musical skills, but it also offers opportunities for children to get along with others (Winsler, Ducenne, & Koury, 2011). Much evidence shows that in the integrated curriculum classes, students are more involved in learning, with better self-motivation and fewer behavior problems than those in traditional classes (Bolak, Bialach & Dunphy, 2005; Flowers, Mertens, & Mulhall, 2005; Vars, 2001; Yu-Liang, Huan-Hung, 2015). Many early childhood educators consider that

music is a very appropriate approach to improve children's psychological and cognitive development (Kenney, 1997). In this current study, the design of the intervention is under the framework of integrated curriculum; thus, Orff musical activities are considered to be a vehicle providing social emotional learning opportunities to the children.

The nature of Orff musical activity is a combination of a variety of activities, rather than only referring to the sound or musical skills. It is an integrated social activity with movement, language and dance, where the participants are involved in music, not as an audience but as a performer (Li et al., 2011). Therefore, employing the teaching strategies of Orff musical activities, may be an effective way to deliver the knowledge and skills of social competence. The Orff-based curriculum, used in the current study, follows the instructions and ideas of Orff Schulwerk, including speech, movement and Orff instrument playing (Orff & Keetman, 1982). The finding is consistent with the previous studies in that language, private speech and musical activities have roles in improving self regulation (Winsler, 2009; Winsler, Ducenne, & Koury, 2011). Furthermore, researchers find that movement activity can improve children's motor control and emotional regulation (Southam-Gerow & Kendall, 2002). Therefore, one of the reasons that the intervention of this Orff-based musical curriculum has a positive effect on children's self regulation is that speech and movement are vital activities included in this Orff musical curriculum.

In summary, the ability of children to plan, control and influence their behaviors and emotions to complete their goals in the social context plays an important role in the success of social relationships. The finding in this current study strongly suggests that Orff-based musical activities are an effective way to improve children's self regulation even in a short term intervention, and this finding is in accordance with the

findings of many prior studies, despite differences in the populations and length of interventions investigated.

Research question four (RQ4) examines the effect of the Orff-based musical curriculum on the children's empathy. The result shows that there is insufficient evidence to support the hypothesis that the treatment improves the children's empathy, after controlling for their initial levels of empathy and gender. This finding is not consistent with some prior studies which focus on the effects of musical activities on empathy (Greenberg, Rentfrow, & Baron-Cohen, 2015; Jeremić, imonji-Černak, Markov, & Pantić, 2015; Rabinowitch, Cross, & Burnard, 2013). Waddington (2015) discussed the influence of music preference and musical activities on individuals' empathy. Although researchers who are in the field of music psychology and musicology focus on the non-musical function of a variety of musical activities, only recently have researchers paid attention to their relation with empathy (Greenberg, Rentfrow, & Baron-Cohen, 2015). The discrepancy between the current and previous research can be understood by considering both the length of the intervention and the difficulties in mastery of empathy for children in the early childhood.

First, the intervention in this current study is a short-term program with only eight lessons in eight weeks. Rabinowitch, Cross, & Burnard (2013) discuss the influence of a group musical activity on children's empathy, conducted over an entire school year. Another study indicates that a vocal performance teaching program (singing songs) had positive effect on second grade pupils' empathy (Jeremić, imonji-Černak, Markov, & Pantić, 2015). The intervention was also lasted for one entire school year. This longer length of time may be one reason for the discrepancy with the previous studies considering the relation between musical programs and participants' levels of empathy.

Second, based on the definition of empathy generated by Gerdes and Segal (Gerdes & Segal, 2009; Gerdes & Segal, 2011), empathy involves three parts: 1) identify and experience the other one's emotion; 2) take the other one's perspective through cognition process; and 3) initiate an effective empathetic response. From this description of empathy, learning and mastery the skills of empathy may take more time for people, especially for children. In addition, children who are five to six years old can be trained to learn to recognize others' facial expressions and take perspectives. However, these two steps are easier than to initiate an effective empathetic response. Because an effective empathetic response is based on correct cognition of facial expressions identifying and perspectives taking, and also depended on the specific setting and question. Therefore, this may be another reason the discrepancy with the previous studies regarding the effects of musical programs on improving participants' levels of empathy.

In summary, the ability of children to perceive mood and feeling, and to understand their emotional status provides a foundation for furthering their good social relations and prosocial behaviors. However, the findings in this current study suggest that the Orff-based musical curriculum can improve children's empathy but not to a statistically significant extent. There are two reasons for this result, one is the intervention is a short-term program, and the other one is that for children in the early childhood, it may be more difficult to master and apply the skills of empathy than the other three aspects of social emotional competence.

Implications for Practice

The purpose of this dissertation is to examine the effect of an Orff-based musical curriculum on social emotional competence of migrant children aged from five to six years of age in a suburban school with kindergarten classes in Shanghai. This Orff-

based curriculum is a musical teaching activity deriving from the ideas of Orff Schulwerk. The findings of this study are that the intervention has positive effects on children's responsibility, social competence and self regulation, which are important elements of social emotional competence. This study informs Chinese music educators and kindergarten teachers regarding teaching strategies for improving children's social emotional competence utilizing a music-based curriculum.

The exploratory research conducted in the current study provides some of the first empirical data regarding the benefits of using an Orff-based curriculum to enhance children's social emotional competence in the setting of a Chinese suburban school with kindergarten grade. With a limited number of studies on this topic, the finding of this study expands the knowledge base regarding the use of the Orff-based musical approach to improve social emotional competency of young children (Eren, 2015; Perez-Aldeguer, 2013; Ritblatt, Longstreth, Hokoda, Cannon, & Weston, 2013; Schellenberg, Corrigall, Dys, & Malti, 2015; Schwartzberg, & Silverman, 2013; Shi, Lin, & Xie, 2016; Yun & Kim, 2013).

The findings in this current study provides ideas and methods for music educators and teachers in early childhood education to integrate musical activities within a social emotional learning program. The program in this current study provides an integrated musical curriculum for kindergarten teachers to use in their classes. Children involved in the Orff-based curriculum, when exposed to social activities with the teachers and their peers, have opportunities to improve their responsibility, social competence and self regulation. By teaching this Orff-based musical curriculum, teachers may have a feasible way to help the migrant kindergarteners in suburban areas learn how to regulate their emotion, how to regulate their behaviors, how to perceive others' emotional status, and how to get along with their peers. The

improvement of responsibility, social competence and self regulation of children in Chinese suburban areas may help them to be more confident in social activities.

Teachers may use the methods from Orff Schulwerk, such as movement, body percussion, rhythmic speech and Orff instruments, as an effective vehicle to address the goals of improving children's self regulation and empathy. For example, for the "Reading Activity with Music" in lesson four, more reading materials related to emotion and behavior regulation can be provided in the accompaniment of Orff instruments. This provides the kindergarten teachers with a new idea for language activity that combines reading with musical activities. This may be an effective way to help younger children pay attention to the content of the reading and be more involved than in the traditional way. Another example is found within lesson six, "Musical performance." Through this activity, children can recognize the different emotional states of facial expressions and they use Orff instruments to create sounds (music) to describe different emotional expressiveness. In this way, children are more involved in the processing of learning emotional expressiveness.

In addition, there are two categories of Orff instruments: Non-pitched percussion and pitched percussion. The playing of all Orff instruments within an ensemble can be improvisational because the sounds produced with these instruments can be based on the pentatonic scale which has the property of harmonizing together. Therefore, teachers can encourage children to explore the accompaniment for reading materials related to the different status of emotions and story lines without the worry of making noises by using Orff instruments. And such exploration by the children may be why they are better able to understand and perceive others' different emotional states while being engaged in Orff-based activities.

Teachers in kindergarten as well as professional researchers in music education may also broaden their views of music's role in early childhood education, not only focusing on teaching musical knowledge, but also integrating music teaching with other domains of children's development. Saracho (2011) suggested that all disciplines should be integrated into a play-based course to strive for educational goals in early childhood education. Based on the findings of this current study, the combination of Orff musical activity and social emotional learning has its role in improving children's responsibility, social competence and self regulation. As the Orff musical activities have the same characteristics of play, it is recommended that teachers and researchers can apply Orff musical approach into classroom teaching.

Further, the pilot study is to test the validity and the reliability of the Chinese version of the instrument SEARS-T (SEARS-T-CH). The evidence suggests that the interrater reliability and internal consistency reliability of the adapted SEARS-T-CH scale are sufficient. Moreover, compared to the prior instruments used in assessing social emotional competence, SEARS-T-CH is a scale that focusing on the resilience and positive behaviors. Therefore, this adapted SEARS-T-CH scale provides other Chinese researchers with an alternative choice of instrument in the related studies on children's social emotional competence.

Suggestions for Further Research

The purpose of this inquiry is to understand the effects of participation in the Orff-based musical curriculum on the social emotional competency of kindergartners in suburban areas in Shanghai. As an exploratory study, this is the first attempt to study the effects of the musical activity on migrant kindergartners' social emotional competence in China. Limitations of this study were provided in Chapter Three so

that future researchers can consider these subtleties. Several suggestions are provided to researchers.

First, there were 56 student participants recruited in the current study at one site. The statistical power analysis (using G*Power software) suggested that at least 55 participants should be recruited. Therefore, the sample size of the current study was barely sufficient. Therefore, researchers are encouraged to recruit larger samples with participants from different study sites in order to generalize the findings to larger population of young children in China.

Second, as this study employed a quasi-experimental design, subjects were not randomly assigned, and researchers in the future can attempt to conduct a randomized experimental study. While the researcher employed the use of covariates (the pretest scores) to compensate for this weakness, it is possible that other systematic differences existed between the groups. If future researchers are not able to carry out a randomized design, additional control variables that may have an influence on subjects' social emotional competence should be taken into consideration, such as their parents' social emotional competence and the classroom teachers' social emotional competence.

Third, the researcher was also the experimenter who conducted the intervention of the Orff-based musical curriculum in this current study. Future researchers may offer training to the classroom teachers to complete the curriculum. In addition, more training about the design and using the instrumentation should be provided to the classroom teachers before the experiment so that "experimenter effects" and "subject effects" can be minimized.

Fourth, the newly translated SEARS-T-CH for the Chinese context should undergo further validation. While the results from the pilot study were promising and

the tool was sensitive enough to detect statistically significant differences in the current study, ongoing instrument validation is needed. In the current study, the interrater reliability, internal reliability and the convergent validity of the SEARS-T-CH were examined. However, the further study can be conducted to see whether additional evidence of validity can be found for SEARS-T-CH, such as factor analysis to confirm a four-factor solution.

Fifth, samples drawn from schools with students whose parents are local residents is warranted to better understand if the intervention is effective for both migrant student group and local student group. The study can be carried out for students with local registration or mixed group with local and migrant students.

Sixth, in China, the imbalance of the education resources, between development and less development areas, is an important issue. Migrant children, as a special group generated in the background of development of the economics, should be paid more attention to concerning their living status and mental health. Therefore, further studies can focus on the investigation of the present situation of migrant children's development and the educational strategies addressing their situation.

Finally, the design of the experiment can be also adjusted for different participants (both migrant and local children) based on their levels of social emotional competence and characteristics. In addition, future research studies might lengthen the intervention and collect delayed posttest scores to explore the long term influence of the Orff-based curriculum, as studies in other countries tended to use longer interventions.

Conclusion

The purpose of this dissertation is to examine the effect of participation in an Orff-based musical curriculum on social emotional competence of migrant kindergarteners in a suburban school with kindergarten classes in Shanghai.

A quasi-experiment design was used and the researcher employed the music teaching strategies of Orff Schulwerk to address the goals of improving migrant kindergarteners' social emotional competence in the suburban school in Shanghai. Parental consent was obtained for 56 migrant kindergarteners to participate in the study from two intact classes and their classroom teachers consented to provide ratings of their students' social emotional competence by completing the SEARS-T-CH questionnaire.

The results indicate that, after receiving the intervention of 16 sessions (eight lessons) of the Orff-based musical curriculum, children in the treatment group were rated more highly, on average, on responsibility, social competence and self regulation as compared to children in the control group, even after controlling for gender, and teacher ratings of the children's initial levels of responsibility, social competence and self regulation, respectively.

This exploratory research provides some of the first empirical data regarding the possible benefits of using an Orff-based curriculum to enhance migrant children's social emotional competence in the setting of a Chinese suburban school with kindergarteners. The findings add to the research literature which focuses on the influence of Orff Schulwerk on children's social and psychological development and the non-musical functions of musical activities. This inquiry informs Chinese music educators and kindergarten classroom teachers regarding teaching strategies for improving children's social emotional competence through the use of a music-based

curriculum. Further studies can focus on the investigation of present situation of migrant children's development and the educational strategies. Additional studies are needed to determine if the intervention is equally effective for children from different backgrounds, such as those who are and are not children of migrant workers.

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APPENDIX A. INTERVENTION PLAN

Week	Activities	Objectives
1	1) Rhythmic speech activity---name play 2) Rhythmic Speech activity---passing ball (yarn ball) 3) Movement activity--- musical chair	Responsibility☆ ☆☆ Self regulation☆☆☆ Social competence ☆ ☆ ☆ ☆ Empathy☆☆☆☆
2	1) Rhythm activity---"the little spider" 2) Movement activity---"who is the king or queen?" 3) Movement activity---"only you"	Responsibility☆☆☆ Self regulation ☆☆☆☆☆ Social competence ☆☆☆☆ Empathy☆☆
3	1) Movement activity---the balloon follows me 2) Movement and singing activity---courtesy language song	Responsibility☆☆☆ Self regulation ☆☆☆☆☆ Social competence ☆☆☆☆ Empathy☆☆
4	1) Circle activity---what happens when I get angry? 2) Reading activity with music---read the book "I'm mad" 3) Stop, Think and Choose Activity	Responsibility☆☆ Self regulation ☆☆☆☆☆ Social competence ☆☆ Empathy☆☆☆☆
5	1) Art activity: name card 2) Movement activity with closing eyes 3) Movement activity: Front seat/back seat driver 4) Cooperative rhythmic movement game playing	Responsibility☆☆☆ Self regulation ☆☆☆☆ Social competence ☆☆☆☆☆ Empathy☆☆
6	1) Orff percussion instrument introduction 2) Musical performance with Orff instrument 3) Circle time	Responsibility☆☆ Self regulation☆☆☆ Social competence ☆☆ Empathy☆☆☆☆☆
7	1) Musical instrument performance: 2) Picture demonstration 3) Circle time:	Responsibility☆☆☆ Self regulation ☆☆☆☆ Social competence ☆☆☆ Empathy☆☆☆☆☆

8	Review and performance	Responsibility☆☆☆ Self regulation ☆☆☆☆ Social competence ☆☆☆ Empathy☆☆☆☆

APPENDIX B. INVESTIGATION OF STATISTICAL ASSUMPTIONS

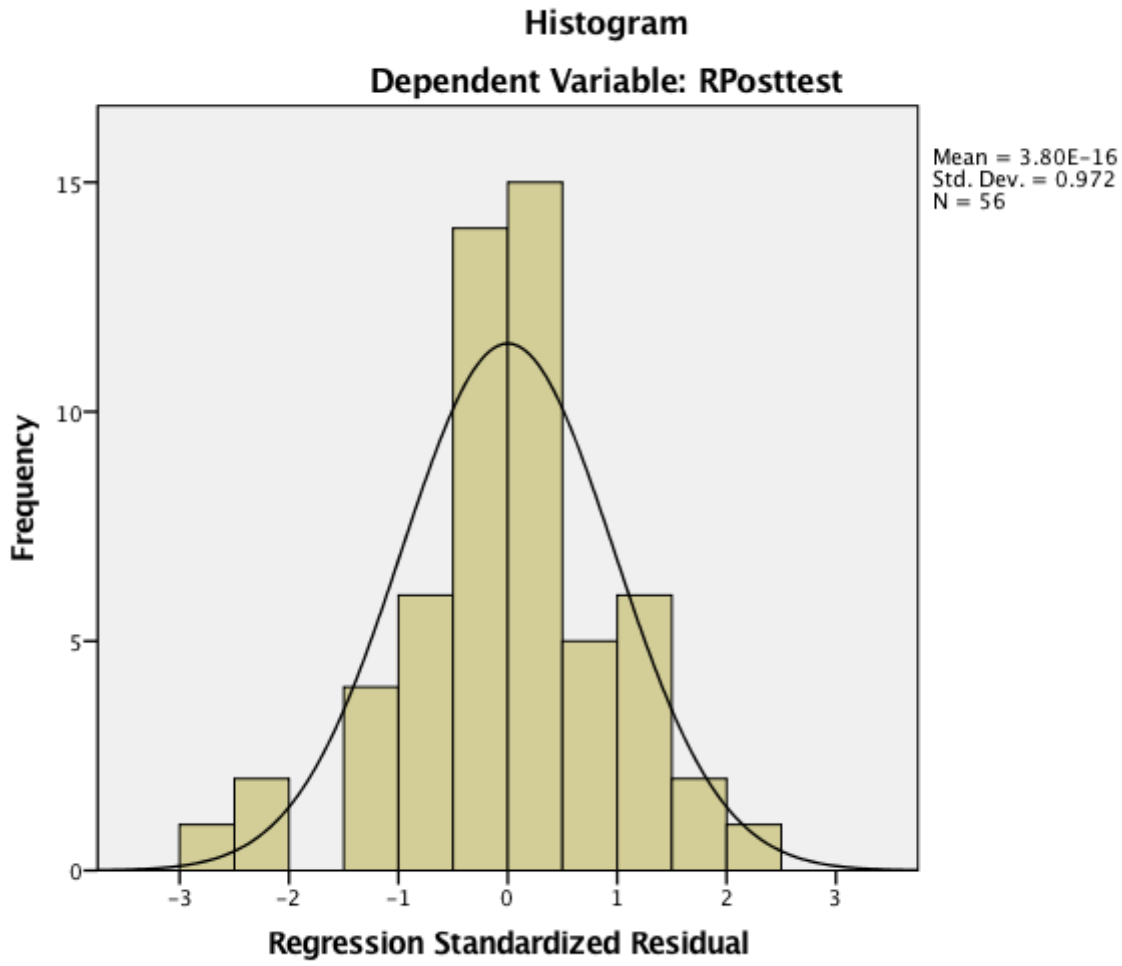

Figure 1. Normality of residuals assumption of Responsibility: histogram.

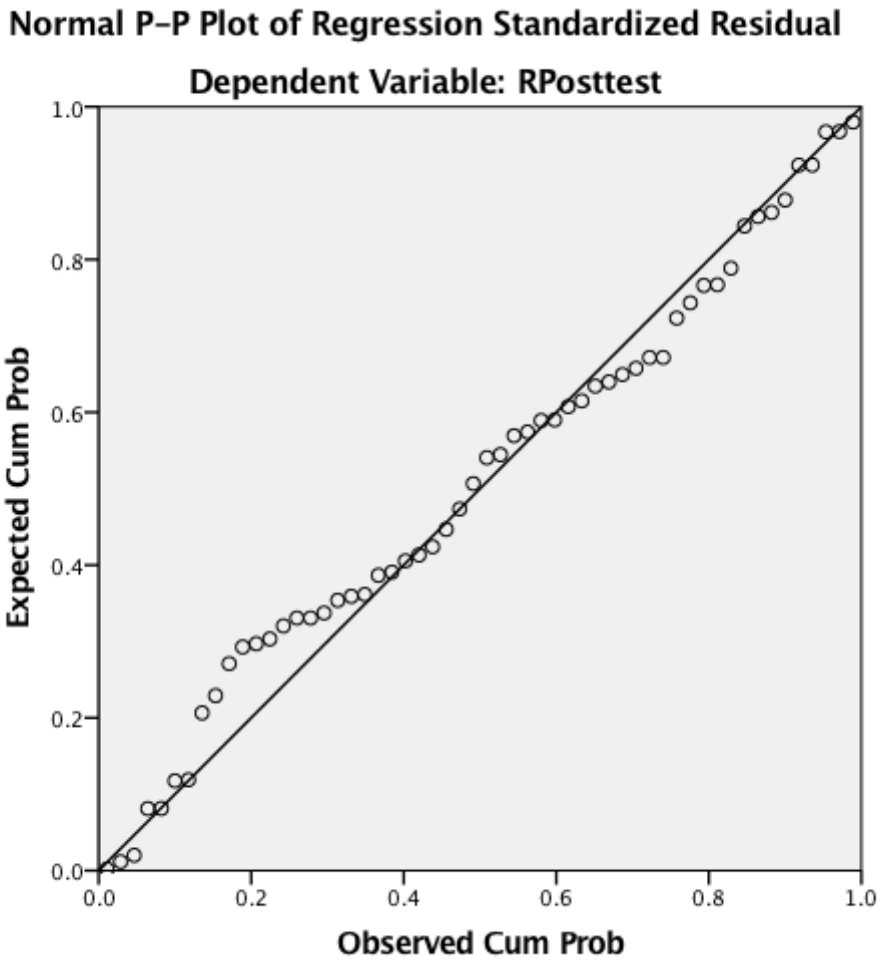

Figure 2. Normality of residuals assumption of Responsibility: q-q plot

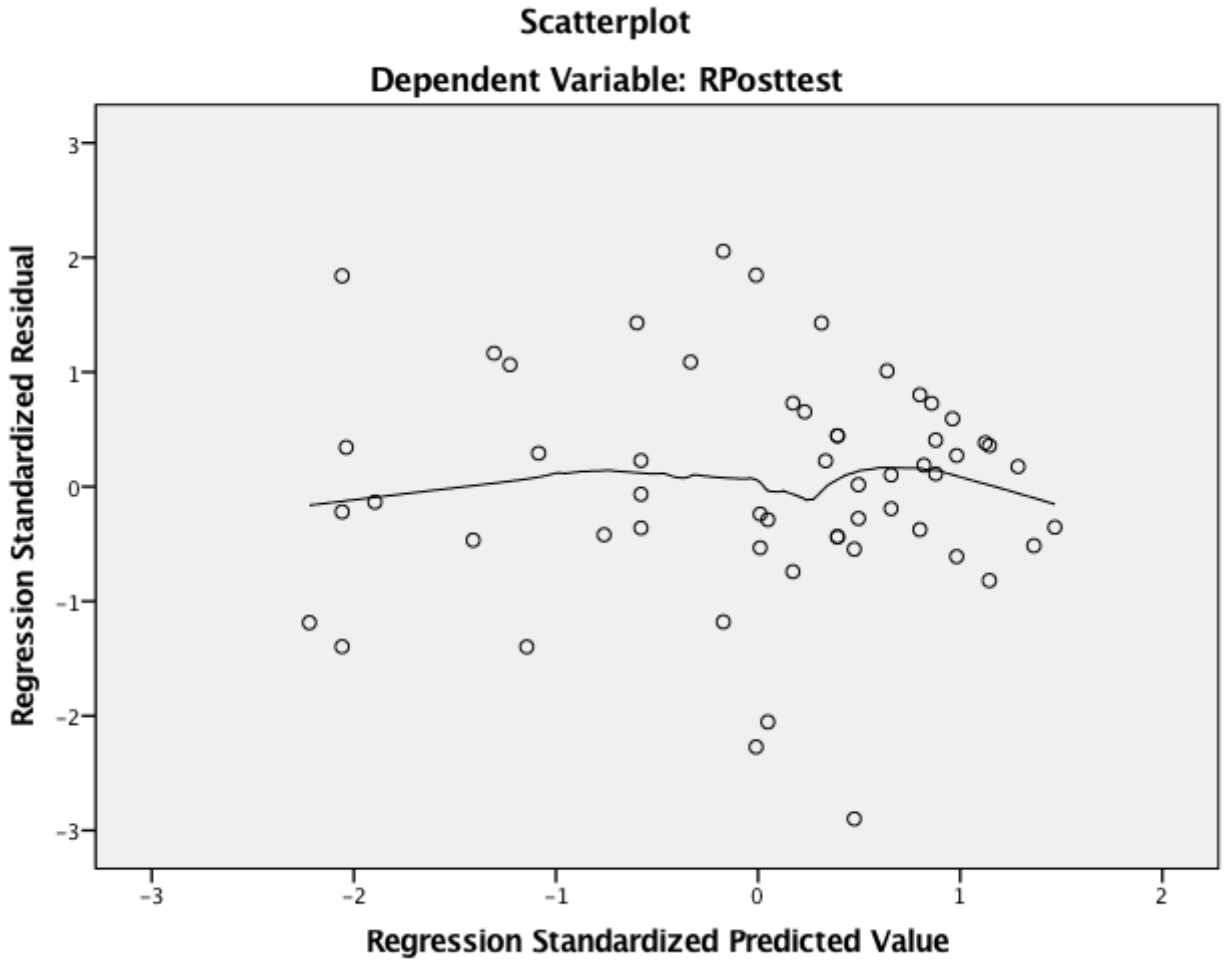

Figure 3. Linearity assumption: Standardized residual plotted against standardized predicted posttest scores of Responsibility.

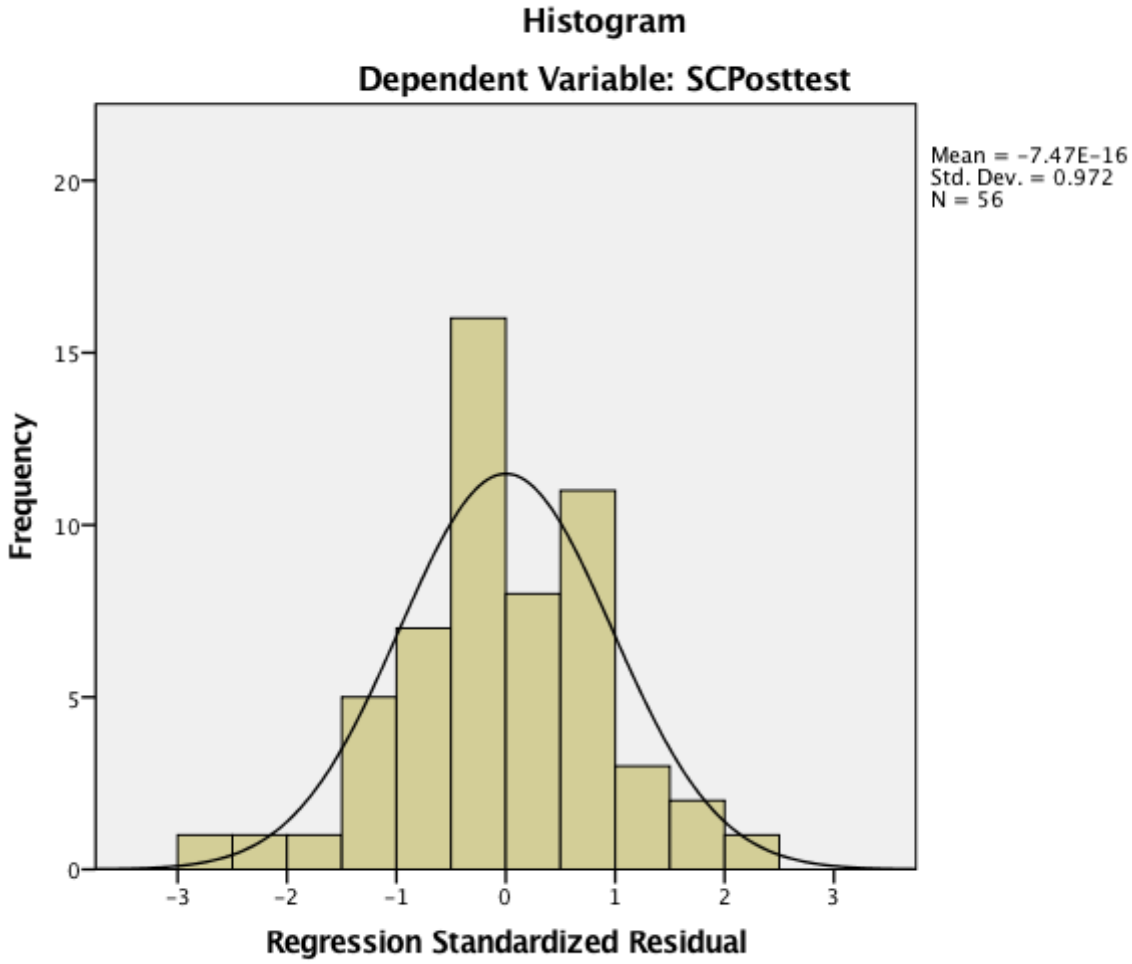

Figure 4. Normality of residuals assumption of Social Competence: histogram.

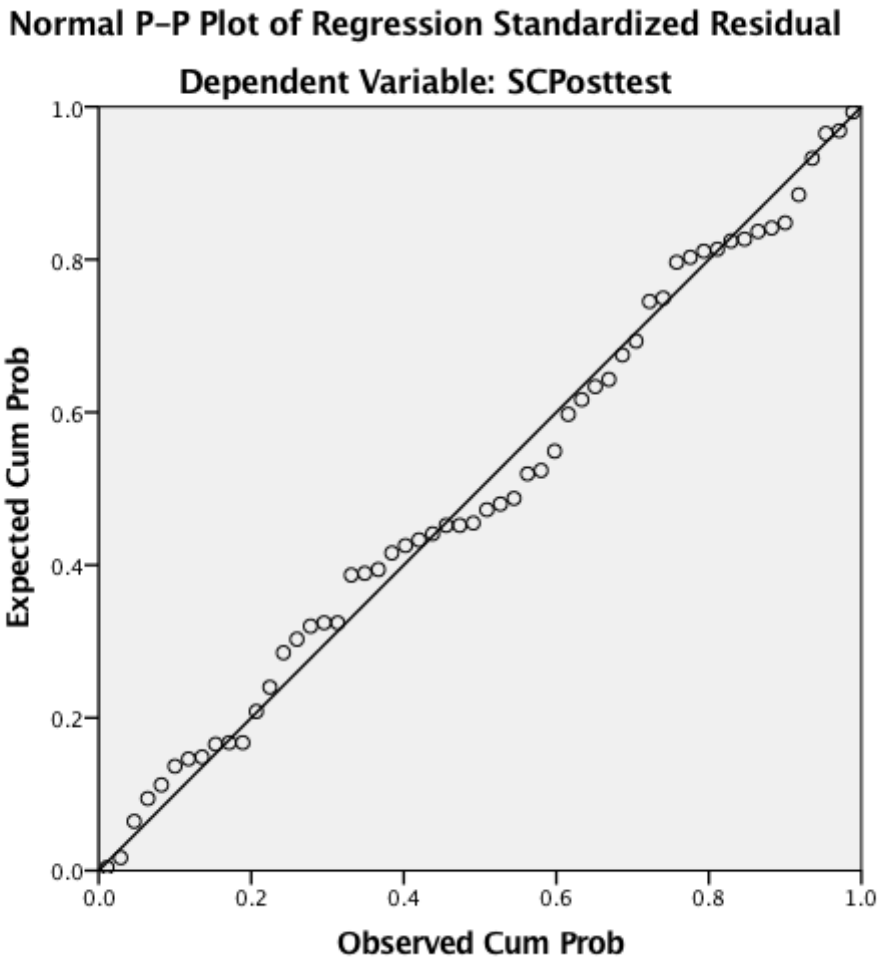

Figure 5. Normality of residuals assumption of Social Competence: q-q plot

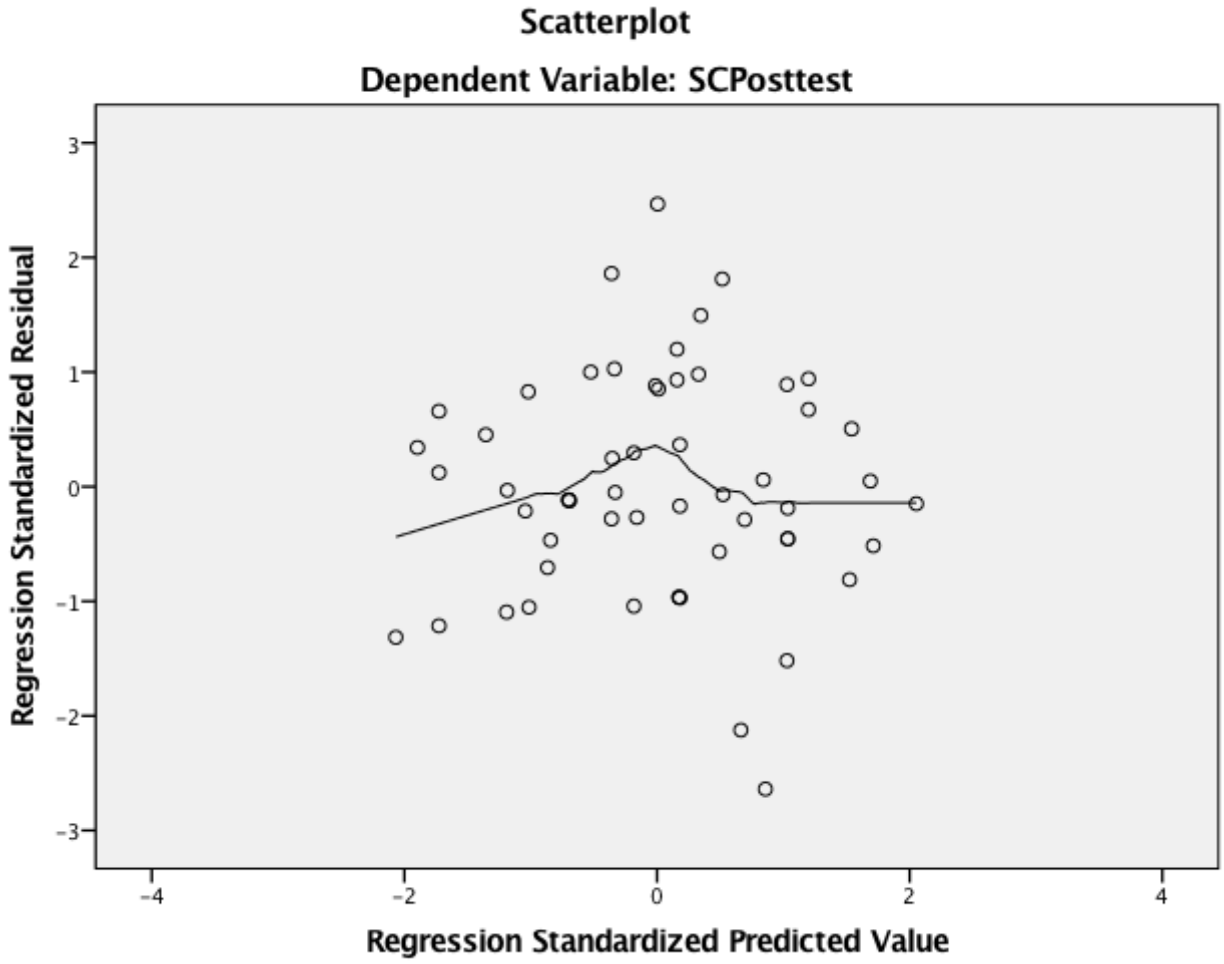

Figure 6. Linearity assumption: Standardized residual plotted against standardized predicted posttest scores of Social Competence.

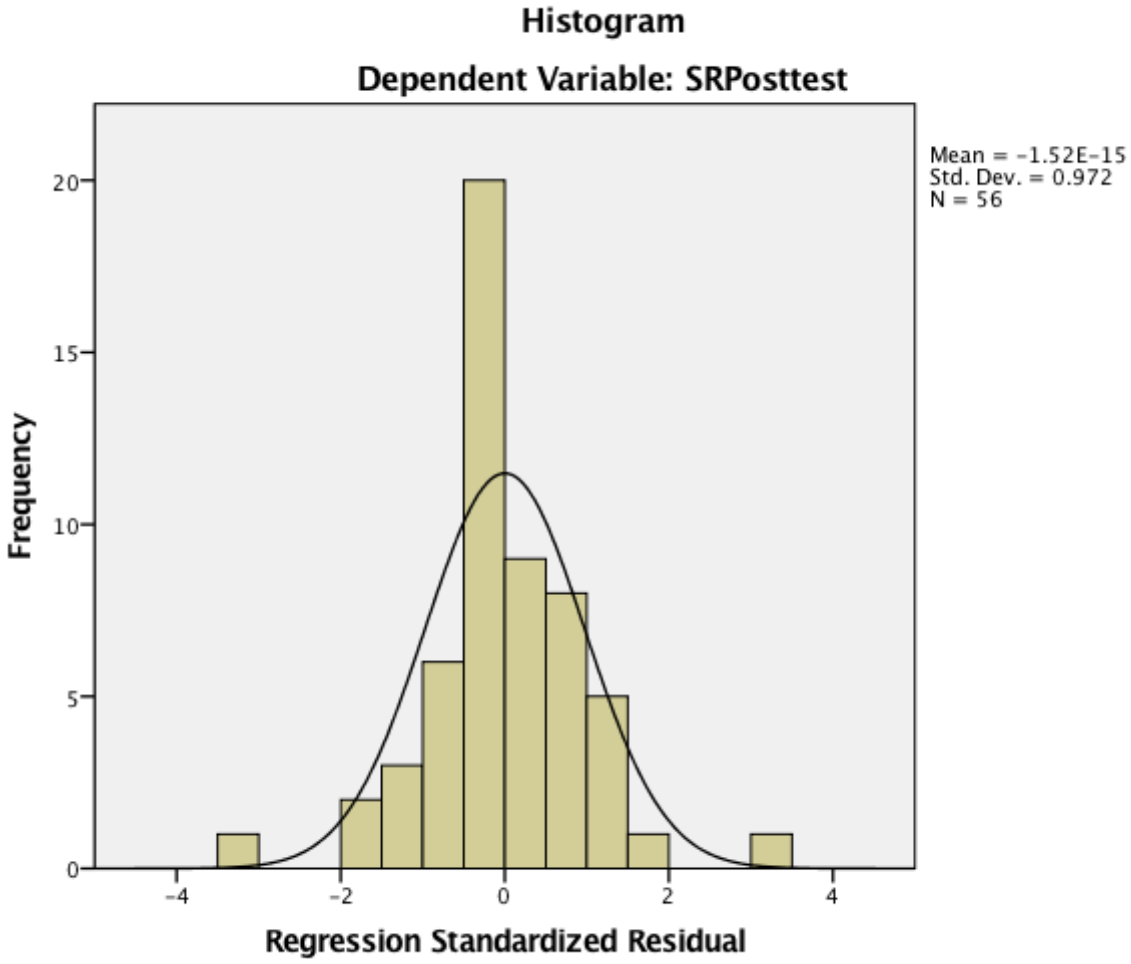

Figure 7. Normality of residuals assumption of Self Regulation: histogram.

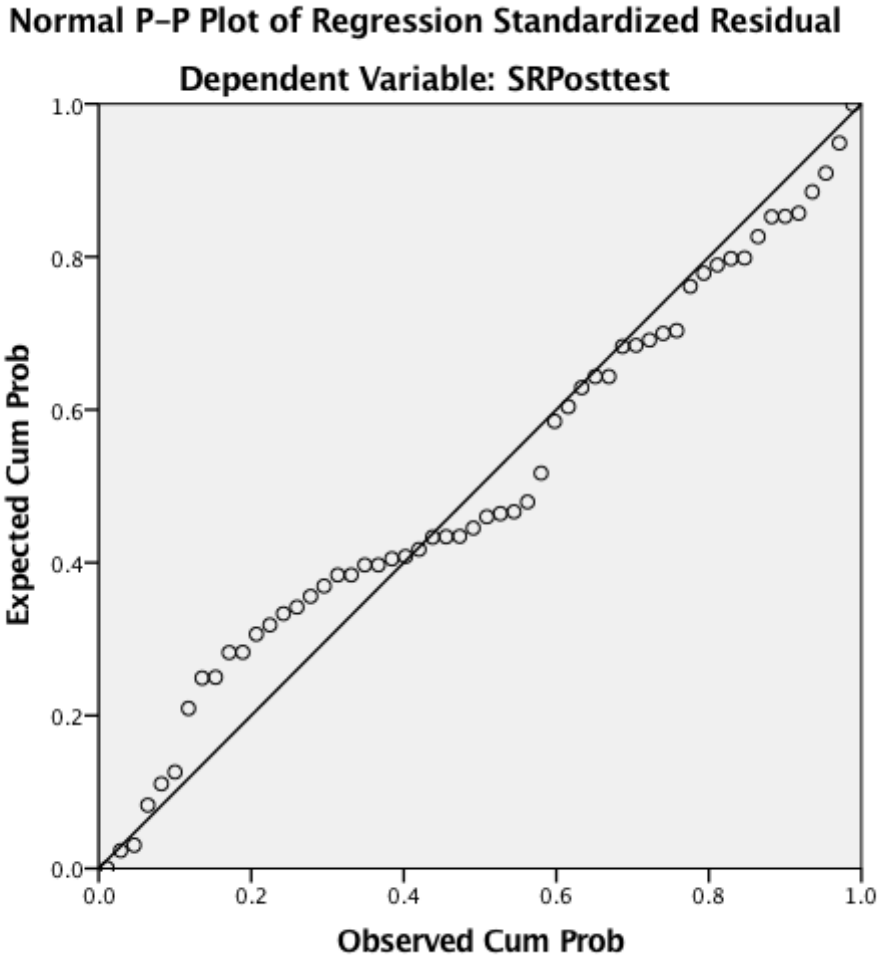

Figure 8. Normality of residuals assumption of Self regulation: q-q plot

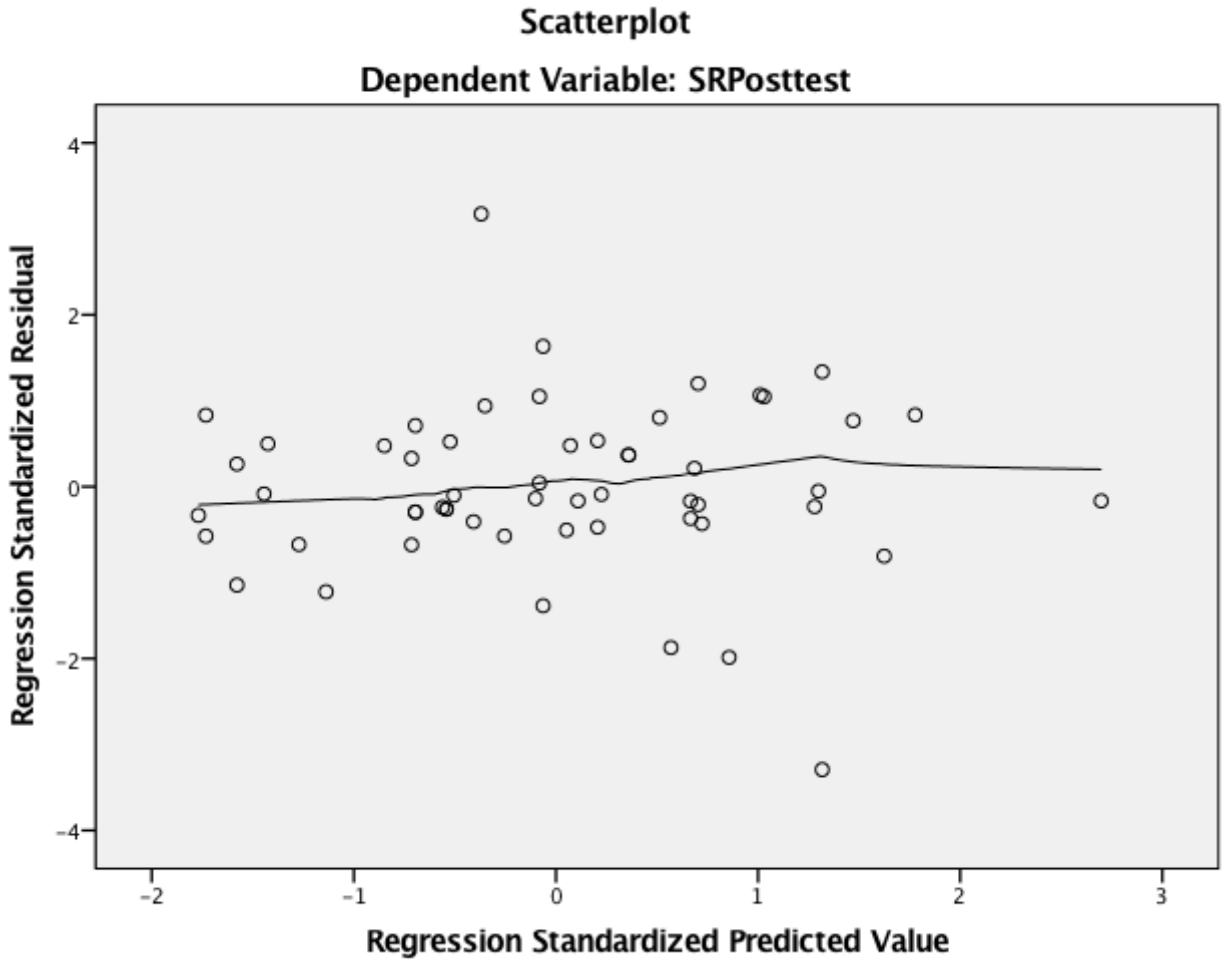

Figure 9. Linearity assumption: Standardized residual plotted against
standardized predicted posttest scores of Self regulation.

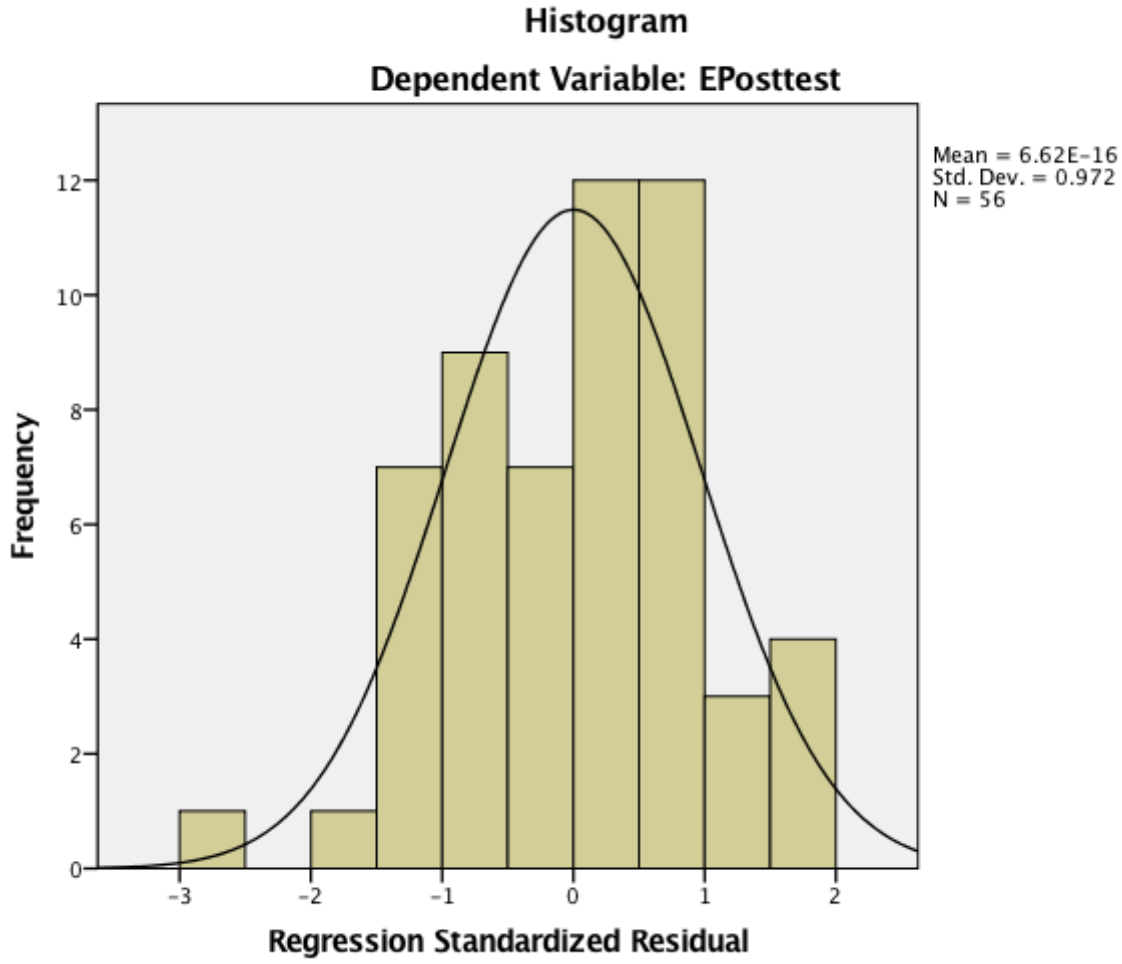

Figure 10. Normality of residuals assumption of Empathy: histogram

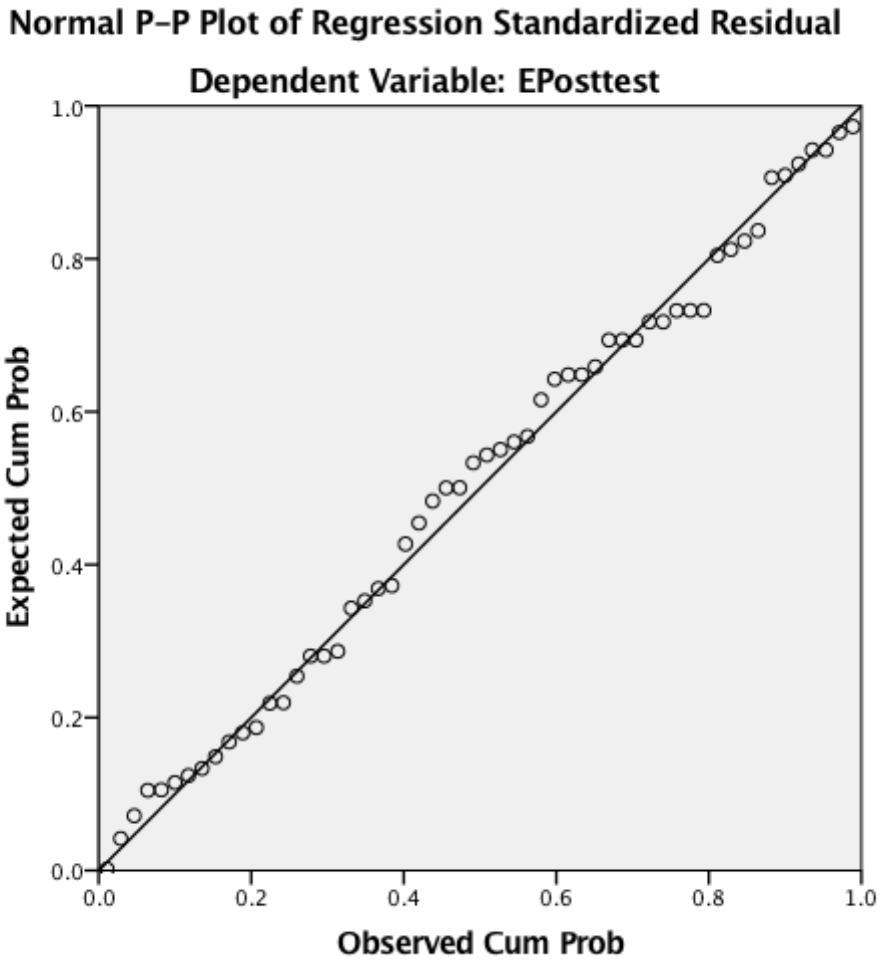

Figure 11. Normality of residuals assumption of Empathy: q-q plot

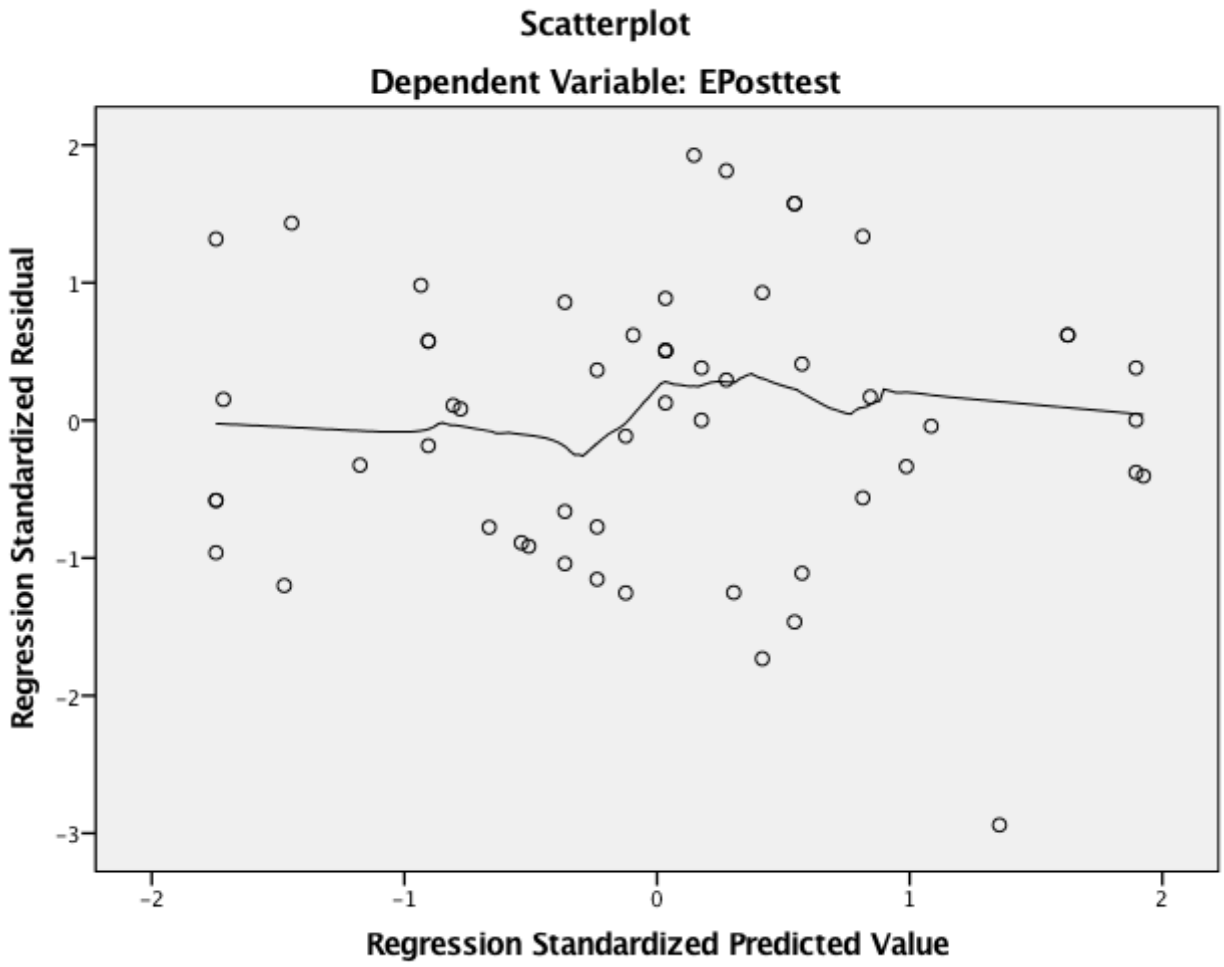

Figure 12. Linearity assumption: Standardized residual plotted against
unstandardized predicted posttest scores of Empathy.

Table 1 Homoscedasticity Assumption: Comparison of the Variance of Residuals for Different Levels of Pretest Scores of Responsibility.

Report

Unstandardized Residual

Percentile Group of PRE_1	Mean	N	Std. Deviation	Variance
1	-.0030212	11	.36721923	.135
2	.0446148	12	.43382144	.188
3	-.0010300	11	.31666807	.100
4	-.0446401	11	.35657778	.127
5	.0000207	11	.16452217	.027
Total	.0000000	56	.33055238	.109

Table 2 Homoscedasticity Assumption: Comparison of the Variance of Residuals for Different Levels of Pretest Scores of Social Competence.

Report

Unstandardized Residual

Percentile Group of PRE_2	Mean	N	Std. Deviation	Variance
1	-.0776410	11	.27255124	.074
2	.0702390	11	.26191865	.069
3	.0682632	13	.36122746	.130
4	-.0606982	11	.49349459	.244
5	-.0138320	10	.19528036	.038
Total	.0000000	56	.33020254	.109

Table 3 Homoscedasticity Assumption: Comparison of the Variance of Residuals for Different Levels of Pretest Scores of Self Regulation.

Report

Unstandardized Residual

Percentile Group of PRE_3	Mean	N	Std. Deviation	Variance
1	.0606297	11	.41296681	.171
2	.0416980	12	.86815785	.754
3	-.0530080	11	.89549874	.802
4	-.0820962	11	.69992701	.490
5	.0289858	11	.45794794	.210
Total	.0000000	56	.67671672	.458

Table 4 Homoscedasticity Assumption: Comparison of the Variance of Residuals for Different Levels of Pretest Scores of Empathy.

Report

Unstandardized Residual

Percentile Group of PRE_3	Mean	N	Std. Deviation	Variance
1	-.0697386	10	.25275951	.064
2	.0650407	12	.36391030	.132
3	.0424895	12	.29831684	.089
4	-.0060577	11	.28195924	.080
5	-.0478492	11	.50974042	.260
Total	.0000000	56	.34511291	.119

Table 5 the ANCOVA assumptions regarding parallel slopes of Responsibility

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.828	.185		4.467	.000
	children_gender	.022	.109	.020	.201	.841
	RPretest	.739	.096	.763	7.682	.000
2	(Constant)	.764	.179		4.259	.000
	children_gender	.045	.104	.041	.435	.666
	RPretest	.710	.093	.733	7.650	.000
	conditionh	.222	.092	.204	2.421	.019
3	(Constant)	.648	.216		3.005	.004
	children_gender	.042	.105	.038	.399	.692
	RPretest	.769	.111	.793	6.954	.000
	conditionh	.225	.092	.206	2.447	.018
	crossConditionByR	-.168	.172	-.101	-.977	.333

Table 6 the ANCOVA assumptions regarding parallel slopes of Social Competence

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.809	.161		5.027	.000
	children_gender	.023	.101	.021	.228	.820
	SCPretest	.755	.092	.763	8.238	.000
2	(Constant)	.599	.178		3.364	.001
	children_gender	.010	.097	.009	.103	.918
	SCPretest	.814	.091	.823	8.915	.000
	condition	.225	.094	.208	2.379	.021
3	(Constant)	.575	.207		2.777	.008
	children_gender	.006	.099	.005	.056	.956
	SCPretest	.827	.110	.837	7.539	.000
	condition	.222	.096	.205	2.306	.025
	crossConditionBySC	-.045	.201	-.024	-.226	.822

Table 7 the ANCOVA assumptions regarding parallel slopes of Self regulation

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.848	.171		4.970	.000
	children_gender	.085	.107	.082	.795	.430
	SRPretest	.700	.108	.671	6.474	.000
2	(Constant)	.517	.203		2.547	.014
	children_gender	.052	.102	.050	.509	.613
	SRPretest	.830	.113	.796	7.334	.000
	condition	.282	.105	.275	2.685	.010
3	(Constant)	.562	.231		2.435	.018
	children_gender	.054	.103	.052	.523	.604
	SRPretest	.804	.129	.771	6.229	.000
	condition	.293	.109	.286	2.685	.010
	crossConditionBySR	.107	.253	.050	.422	.675

Table 8 the ANCOVA assumptions regarding parallel slopes of Empathy

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.915	.199		4.601	.000
	children_gender	.169	.130	.147	1.299	.200
	EPretest	.590	.113	.590	5.220	.000
2	(Constant)	.794	.238		3.331	.002
	children_gender	.154	.131	.134	1.177	.245
	EPretest	.628	.121	.629	5.213	.000
	condition	.116	.125	.102	.929	.357
3	(Constant)	.663	.283		2.345	.023
	children_gender	.141	.132	.123	1.065	.292
	EPretest	.696	.144	.697	4.828	.000
	condition	.103	.126	.090	.812	.420
	crossConditionByE	-.205	.238	-.112	-.862	.393